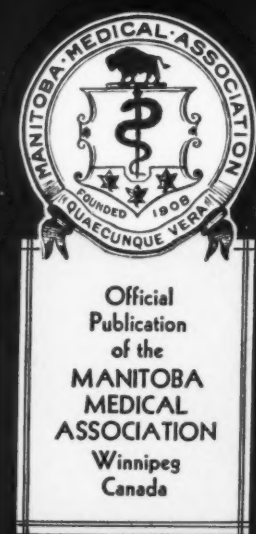


Manitoba Medical Review



MAY 19 1958

MEDICAL
LIBRARY

Vol. 38

No. 5

MAY, 1958

Gynecology:

- Carcinoma of the Female Pelvic Organs
and the G. P., H. B. Atlee 293

Otolaryngology:

- Cancer of the Throat, John E. McGoey 297

Psychiatry:

- The Early Recognition of Depression,
W. G. Glassco 302

Urology:

- The Value of Aortography in the Differential
Diagnosis of Renal Pathology, A. Clifford
Abbott, John T. MacDougall,
Thomas K. Goodhand 306

Surgery:

- Limitations in the Surgical Treatment of
Duodenal Ulcer, R. C. Harrison 310
Multiple Injuries—Their Assessment and
Management, James S. McGoey 314

Pathology:

- The Coombs Test, Bruce Chown 321

President's Page 325

Editorial:

- Time and the Doctor 327

Book Reviews 329

- Advance Notice of the Visit of
Professor T. N. A. Jeffcoate 331

Victorian Order of Nurses 331

Obituary 331

Association Page:

- Chartered Plane to Edinburgh 333
Travelling to Edinburgh?
What About Insurance? 333
Disability Allowances 333
Excerpt from Report of Committee on
Economics to Executive 335

Social News 339

Executive Officers 345

Detailmen's Directory 350

Department of Health:

- Communicable Disease Report 351
Mortality Statistics 351

Manitoba Medical Association
50th Anniversary
Royal Alexandra Hotel
October 6, 7, 8, 9, 10, 1958
also
Manitoba Medical College
75th Anniversary



Introducing
A NEW PRODUCT

SANDOSTENE

for
quick
effective
relief from
itching
and various
allergic
manifestations

For literature and sample, write to:

SANDOZ
P H A R M A C E U T I C A L S
M O N T R E A L



The Manitoba Medical Review

Vol. 38

MAY, 1958

No. 5

Gynecology

Carcinoma of the Female Pelvic Organs and the G. P.

H. B. Atlee, M.D.

Professor of Obstetrics, Dalhousie University,
Halifax, N.S.

From the standpoint of the general practitioner, carcinoma of the female pelvic organs is a schizophrenic set of conditions. He is called upon urgently to make the diagnosis and father the followup, but he plays little if any part in the treatment. This is because the treatment lies between the gynecologist and the radiotherapist, who likewise feel a consciousness of the schizophrenia, since in some centres treatment is largely gynecologically and in others largely radiotherapeutically controlled.

Let us for a moment, leave this tortuous matter of treatment and give our minds over to the very important part that the general practitioner must play in the handling of the cancer patient if we are to achieve higher cure rates. Some years ago I took a trip with the idea of discovering if I could increase our cure rate in Halifax by taking thought of what was being done in other centres. One shrewd gynecologist, on my telling him the object of my mission declared: "Your treatment is probably standard with ours — the way to increase the cure rate is to start treating the patient earlier in her disease."

If this statement is true, the real burden of getting better results in the treatment of female genital cancer rests directly and absolutely on the general practitioner. He is the man who sees the women in the earliest manifestations of the disease and must of necessity make the diagnosis and get the patient to the gynecologist - radiotherapist at the earliest possible moment. Let us then here concern ourselves with early diagnosis.

Carcinoma of the Vulva

Almost every case of carcinoma of the vulva is preceded by leukoplakic vulvitis. This is a disease characterized by an intense itching and irritation, and a whitish coloration of the skin over the vulva. Because of the scratching resulting from the itching, there is often excoriation of the skin, and it is in the cracks due to excoriation that carcinoma usually starts.

I know of no effective treatment of leukoplakia short of excision of the vulva and have tried all the remedies — hormones, x-ray, and ointments including cortisone. Sooner or later all the cases I have seen have come to operation. This being the fact I feel that the sooner the better. There-

fore, if a patient presents herself to you with the symptoms of vulval irritation and itching and she has leukoplakia she should have the involved vulvar skin removed. This skin should be sent to the pathologist. If there are any areas of excoriation these should be cut out separately and sent in a special test tube. On several occasions I have found that, while the large piece of skin was negative for malignancy, the small areas of excoriation or fissuring proved malignant. Of course if the condition has become frankly malignant, there will be a constant discharge of a blood stained nature from a definitely ulcerated area.

Blood, or a bloodstained discharge, is the red badge of cancer. It is present in frank carcinoma of the vulva, in carcinoma of the cervix, in carcinoma of the body, and sometimes in carcinoma of the ovary. I have a slogan that I teach to my students and I tell them to repeat it every night with their prayers. It goes like this: Every woman who bleeds irregularly from the cradle to the grave has carcinoma until it is proved that she hasn't. My saddened and somewhat cynical conclusion after having watched the diagnostic behavior of my students over many years is that they do not say their prayers, for constantly I keep seeing patients on my service concerning whom the above injunction was neglected.

Carcinoma of the Cervix

This, the commonest of all female pelvic cancers — is divided, according to its state of progress into four stages. As an indication of the usual rapidity of its growth, it can be said roughly that a carcinoma of the cervix that has shown symptoms for more than two months is no longer in stage I. If these symptoms have been present for three months, the condition is somewhere in the large group Stage II, and if present for more than four months, there is every possibility that the condition is in Stage III. Since our cure rate, by and large, depends on the stage in which we find the disease, a month's delay in getting the patient to the treatment centre can be disastrous. If we treat the patient in Stage I, the cure rate should not be much under 70%, but if we do not get her until Stage II, there is a drop in cure rate to about 35%. In Stages III and IV, only the lucky are cured.

What are the earliest symptoms and signs of carcinoma of the cervix?

1. A bloody or pink and watery discharge. This is usually the earliest of all symptoms, and, if the patient states that she has a watery discharge, it is almost indicative of carcinoma of the cervix.

2. Bleeding on coitus, or the prick test. This again is a very highly, suggestive symptom. The other morning, doing a round with my students I found this the first symptom in three new cases of carcinoma of the cervix.

3. An unexplained loss of weight or well-being. While some patients with early carcinoma are unconscious of any general deterioration, a considerable number have noticed some slump from well-being.

What should one do in the presence of the above symptoms, or of the third with any one of the other two? The first thing is to take a look at the cervix through the vaginal speculum. Usually, this clinches the diagnosis — there is a telltale ulcer or cauliflower exuberance that looks like nothing else but carcinoma, and can be nothing else. But in the early stages the cervix may only look suspicious. What to do in this case? First, one can take Papanicolaou smear. Then one should try the stick test. A wooden applicator is pressed against the suspicious area of the cervix, if it penetrates this area the condition is carcinomatous. A positive stick test can practically be taken as diagnostic of carcinoma of the cervix.

If there is still doubt, the next step should be a biopsy. Now, when a biopsy of the cervix is taken in a suspicious case it should not be a boy sent on a man's errand. A punch biopsy may prove positive, but if it is negative you are still in left field. In the suspicious case the only rational type of biopsy is a coning away with the knife of the entire external os and about three-quarters of the cervical canal. This gives the pathologist a chance to examine every possible area of invasion.

This cone or complete type of biopsy is especially important in cases where a punch biopsy has brought a diagnosis of carcinoma in situ. What happens all too often is, that, when further sections of this cone are taken from a cone biopsy, it is found that there are present also actual areas of true invasion. This has happened to us so often in the past that we now refrain from doing a punch biopsy in all suspicious cases and do only a complete conization. It is so easy to do a punch at an ordinary office examination that one is tempted: the temptation should be resisted.

There is the occasional case of carcinoma of the cervix where the growth is primary in the cervical canal. If such a case is examined in the early stages the cervix may look perfectly normal through the speculum. If an irregularly bleeding woman under 40 presents a normal-looking cervix it is a good idea to push the wooden applicator up the cervical canal to test for friability, and if that is unsatisfactory, to push a small curette into the canal and scrape. This is an office procedure that can be done without an anesthetic and will sometimes strike oil, but, if it doesn't, a cone biopsy should be done.

Carcinoma of the Endometrium

Although this condition can occur as early as the thirties, it is almost always a disease of women past the menopause. There are three conditions that commonly cause bleeding after the menopause: (1) benign or functional uterine bleeding, (2) endometrial or fibroid polypus, and (3) carcinoma of the endometrium. While the last is probably the least common of the three, it is present sufficiently often to constitute a real menace to any woman who presents herself after the menopause with irregular bleeding. It is usually for a long time the only symptom of that disease. If a Papanicolaou test is done in such a case, material should be sucked directly from the uterine cavity, using a syringe and ureteral catheter.

My own practice, arrived at after some years of trial and error, is to do a diagnostic curettage on all such cases. If the curette brings out material that is undeniably malignant, radium is put into the uterus at the same sitting, and six weeks later a hysterectomy with bilateral salpingo-oophorectomy is done, either vaginally or abdominally. If the curettings do not look malignant, immediate vaginal hysterectomy is done and, if on opening the uterus there is any suspicion of carcinoma, the tubes and ovaries are also removed. This hysterectomy is really done as a biopsy, and the reason it is done is because on several occasions I have known the most thorough curettage to bring out no carcinomatous tissue in cases that later turned out to be cancerous. I first saw this happen in London to four cases at Chelsea Hospital for women cured by no less than Victor Bonney, Comyns Berkeley and T. Watts Eden — and examined by a pathologist doing nothing but gynecological pathology.

In those cases where, despite the gross appearance, the microscope subsequently reveals carcinoma, radium is applied against the vaginal vault. Where, on opening the uterus at removal it is clear that carcinoma is present, radium is applied immediately to the vault. This vault radium is used because recurrence seems more prone to occur here than elsewhere.

It will be seen from the above that our policy in all cases of bleeding after the menopause is either D & C with immediate radium and later hysterectomy, or D & C and immediate hysterectomy with radium to the vault if the condition proves malignant. Since we use the vaginal hysterectomy by preference whenever we have to remove the uterus for whatever indication, and since this operation has an extremely low mortality and morbidity and a very quick recuperation, we feel amply justified in so radical an approach to this problem of the diagnosis of bleeding after the menopause. It is not a pleasant experience to have done a D & C for postmenopausal bleeding and then, despite negative microscopic findings, have the patient return

months later with an inoperable and hopeless condition.

Carcinoma of the Ovary

(You will have noticed that I have passed over carcinoma of the vagina and the Fallopian tube. I do so deliberately because these conditions are so extremely rare). I would say that the first symptoms of carcinoma of the ovary is usually pelvic pain. Pelvic pain with a tumor occurring in a woman past the menopause is very suggestive of malignancy. If the tumor is clearly felt, the condition—no matter how it may mimic a fibroid—is almost certain to be ovarian carcinoma. The two factors, pelvic pain and pelvic tumor, constitute an almost certain diagnosis.

Where the presenting symptom is the tumor itself that the woman has noticed, the diagnosis of malignancy is less certain. Yet it is astonishing how often a tumor of the ovary presenting itself with no other symptom in a woman over 40 is malignant. Certainly if there is pain, if there has been a loss of weight and strength, and if the pelvic part of the tumor seems fixed, malignancy is a strong likelihood.

I think it is important to bear the possibility of malignancy strongly in mind with ovarian tumors, and for this reason: if the tumor is malignant, it is often adherent. If it is adherent, the adhesions may be difficult to dissect through in a plane of cleavage that does not leave behind a considerable shell of tumor adherent to the pelvis. But if malignancy is suspected, the woman can be given a few doses of x-rays to create enough pelvic edema that a better plane of cleavage can be attained. It is therefore our policy to give such a dosage of x-rays to all women about or past the menopause who present themselves with ovarian tumors.

There is another sign one should mention in connection with ovarian carcinoma—ascites. Sometimes it is the only sign, completely masking the tumor. Its presence in any woman over 40 who has neither heart nor liver disease to account for it, points strongly to ovarian malignancy, and sometimes it is surprising how large an ovarian tumor it can mask. As a rule ascites means that the tumor has extended to the peritoneum or the omentum and is inoperable. One should not say die in such a case, and we have had the occasional surprising remissions after aspirating the fluid and using radiation—either x-ray therapy or radioactive gold. By and large, however, the results are poor. Indeed, the cure rate generally in carcinoma of the ovary is very discouraging.

Treatment

I do not propose to go into details of treatment, except to make certain warning statements. In the first place I think I should say that, apart from carcinoma of the vulva which is as a rule handled by surgery alone, the other manifestations of pelvic carcinoma are either almost entirely radiological problems or at least combined prob-

lems. I think it is important that this point should be made clear. Most cases of carcinoma of the cervix, except carcinoma in situ, are handled radiologically. In Halifax we make some exceptions. Where there is recurrence following radiology, or where there is a poor response to radiology, we do the extended Wertheim operation, and our salvage—even where we have had to remove the bladder—has been worth while.

Our problem with the Wertheim is to get at it at the earliest possible moment. This has made us very sensitive to the diagnosis of recurrence, and we have found that the following points are our best guides:

1. An otherwise inexplicable loss of weight. When a case comes back for a checkup, who has a loss of weight, we search her pelvis very earnestly and she is examined by at least two of our staff.
2. Failure of the vaginal vault to epithelialize, or a breakdown there after epithelialization. If this unepithelialized area is covered by a white slough we usually find that it means just a slow healing, but if it follows after healing has occurred we take a more serious view of it. If the vault is covered by a yellowish slough which has a stinking odor, or, if there is a definite punched-out ulcer there, we proceed with the Wertheim whether the biopsy is positive or negative.
3. Any evidence since the last checkup of lateral extension of the growth into the pelvic cellular tissues.

Unfortunately, despite our vigilance, many cases come back for their checkup with the condition too advanced for operation. It is here that the practitioner can help. If he also is keeping his eye on treated cancer patients and if they tell him they are continuing to discharge, or that they are losing weight, he can send them back to the cancer clinic before they would otherwise be due.

There is some difference of opinion about treatment of carcinoma of the endometrium. MacKelvey and others feel that preoperative radium inside the uterus does not improve the cure rate, while others maintain that it does. Our practice used to be to operate without previous radium application, but we did not feel that our cure rate was high enough to justify continuation of this method. We now apply radium preoperatively wherever we have made the diagnosis before operation, and do the operation six weeks later. We feel that this has improved our results. In cases where we have operated without realizing we were dealing with malignancy we have immediately applied radium to the vaginal vault, since this is a favorite site of recurrence.

I have stated previously that it is our policy to give what we call loosening doses of x-ray to all potentially malignant tumors of the ovary before operation in order to obtain a better plane of cleavage if they happen to be adherent. We feel that, in operating on these cases, it is better to

remove what one can of the growth in order to make the area more permeable to radiation, even when it means leaving frankly malignant material behind, and then applying either radioactive gold, or giving further x-ray therapy. While the salvage in such cases is pitiful, nevertheless we have had patients who have had a long remission of excellent health which made the procedure worth while, and we have also had the occasional five-year cure. This is true even when the peritoneum was studded with growth and there was gross ascites.

One thing we have noticed that I feel I should bring up, and that is the tendency of the occasional operator who goes in after an ovarian tumor to remove only the tumor. If there are any warty growths, either on the surface or in the lining of the locules, the tumor should be regarded as malignant and both ovaries, the entire uterus and omentum removed then and there. This should be the case even when such warty growths are very small and innocent looking. In recent months I opened such a tumor after removal in a woman of 40 and found two small nodules in its lining. I must say it was with some reluctance that I proceeded to remove all the pelvic organs and the omentum, but the pathologist found that both these small nodules were malignant. Certainly, if there is gross evidence of intralocular or extralocular growths, one should not be content merely to remove the tumor — since if such a case is later sent to a cancer clinic, the complete operation will then have to be done. We give all such cases deep x-ray therapy after operation. Some authorities feel that this is not necessary, but, having seen how areas of ovarian malignancy left behind at operation have disappeared for months and years, I am firmly convinced that radiation should be used.

Before closing I think I should say a word about palliation. Because we are so intent on a cure there is a tendency for us to say of further treatment in a case that looks hopeless: "Why bother, she's going to die anyway?" We do not follow this policy at Halifax, and the reason is that we have seen so many women, apparently hopeless, who have had as a result of treatment long periods of excellent health. In the last month I have seen at our cancer clinic two women who have had involvement of the bladder with cancer of the cervix and who had to have the bladder removed at the Wertheim, who are in excellent health, have excellent control of their urine, and are living useful happy lives three and four years later. Not long ago we had a woman with extensive ovarian carcinoma who was being tapped of large quantities of fluid every week, who as a result of her x-ray therapy got rid of her ascites for a year, picked up her health and strength, and was able to do all her work again. I feel therefore, that we should keep possible palliation as well as cure firmly in our minds in handling these unfortunate women.

I feel that the practitioner should play a most important part in the followup of cancer patients. As I stated previously, recurrence need not mean that the situation is hopeless. It is only hopeless when it has gone so far without recognition it is beyond control. It seems to me that our cancer patients should constitute a special interest. Even if they do not come to see us, we should keep in touch with them. They should be encouraged to return to the cancer clinic as directed by the clinic. In our clinic this means every three months for the first two years, every four for the next two, every six for the next and every year after that until they die. If in the meantime they show any of the following signs or symptoms they should be sent back at once. (1) Unexplained loss of weight, (2) discharge from the vagina of any kind, white, yellow, pink or red, (3) pain or swelling in the leg, (4) any evidence of ascites or abnormal swelling.

There is no doubt in my mind that, as long as we have to put up with the present inadequate methods of therapy, increase in cure rate in cancer depends almost entirely on the general practitioner. If he will examine immediately all women with the symptoms of cancer by all the methods at his disposal, and if he will keep in mind the dictum that every woman who bleeds irregularly from the cradle to the grave has cancer until he has proved that she has not, we will continue to increase the cure rate in this dread disease. That seems to be the only way to do this until the ultimate specific cure for cancer is discovered.

And finally there is the care of the hopeless case. These women sometimes pass quickly, but usually it is a lingering, painful, and to the relatives, a terrible process. In many cases I think it is more terrible than it need be, and this is because we have not studied fully or carefully how to handle such cases. There is a tendency to throw them back on the hospital, but most hospitals need their beds for acute cases and, unless the situation is too pitiful, return the patient home.

There are two things that we can do for these cases. If pain is a major factor, and the patient is likely to live for some months, a tractotomy may give complete relief. If the situation is too far along, or if for some reason tractotomy is contraindicated, recourse must be had to drugs.

It is my impression that we mostly fail with drug therapy. The reason is that we do not really go to town with it, but let timidity overcome reason. First of all we should give sufficient dosage to relieve symptoms, and then we should remember that, if we are using opium or any of its derivatives for pain, we should increase the dose steadily so that it will remain effective. And then, when things are getting really bad, we should keep the patient in a sort of No-man's land of analgesia.

As a result of experiment in Halifax we have finally achieved what we call the Carcinoma

Cocktail. Its ingredients are as follows:

Gin — 2 ounces

Paraldehyde — 2½ drams

Chlorpromazine — 25 mgm.

Add Tr. opii with a glass dropper 15 minims and increase dosage as needed.

Make up with an equal amount of grape or other fruit juice and give the dose often enough to keep the patient happy.

Since using this gunshot mixture we have

certainly had better cancer deaths in our ward. It may have to be modified for the individual. If there is no pain the Tr. opii is not needed. Some patients' stomachs will not tolerate the paraldehyde. But when the full mixture can be taken, relief is profound — and most satisfactory.

Death from cancer can be, as I have said a horrible matter. I think we owe it to not only the patient but to her relatives to keep her as comfortable as possible — free not only from pain, but from the awful awareness of her tragic situation.

Otolaryngology

Cancer of the Throat

John E. McGoey, M.D.

The throat is the region between the mouth and the esophagus and trachea. Each anatomical division in this region has its own characteristics of malignancy and so this discussion will be under the following headings:

1. Nasopharynx
2. Palate, pillars of the fauces, tonsils and base of the tongue and vallecula
3. Pharyngeal wall
4. Larynx
5. Cervical Esophagus

There is no difficulty in classifying malignant tumors of the throat, as to their anatomic site of origin, in the early stages. But advanced tumors are difficult, and sometimes impossible, to so differentiate because they involve several anatomic divisions. This applies particularly, as we shall see, to the lower throat — in the laryngo-pharyngo-esophageal region. However, it is very important, in our clinical analysis of these tumors, that we establish, where possible, at the beginning, the anatomic site, histogenetic origin, and extension; for on these factors depend our method of treatment and prognosis.

Cancer of the Nasopharynx

Fortunately, cancer in this region is relatively rare, but it is one of the most malignant growths of the upper respiratory and alimentary tracts. It makes up about 0.2% of all cancers and about 3% of all throat and mouth malignancies. It sometimes occurs in children and more often at ages below 30 than any other malignant tumor of the head and neck. 80% of these cancers occur in males.

There is no discoverable etiological factor. Its incidence does not appear to be affected by the presence of adenoids nor by the influence of chronic sinusitis.

There is a distinct racial susceptibility of Orientals to this disease, and in China it accounts for 5% of all cancers.

Pathology

There is a considerable variety of tumors affecting this region and the most suitable classification is on the basis of their histogenetic origin. Secondary tumors here from a primary elsewhere in the body are exceedingly rare; terato-blastoma, of complex origin, has been reported.

Since cancer here arises most commonly at the site of the adenoids, it is natural that highly anaplastic epidermoid carcinoma and lymphosarcoma should make up most of the tumors in this region. Malignant tumors of minor salivary gland origin, chondrosarcoma, myxosarcoma, and chordoma occur rarely. Lympho-epithelioma is frequently mentioned as occurring here, but its actual existence as a distinct morphologic entity is disputed. There are two types — the Regaud which is frankly carcinomatous and the Schminke which resembles a round cell sarcoma.

Spread to cervical glands appears early in a considerable proportion of cases and occurs eventually in practically all of them. These secondaries are often quite out of proportion to the primary, which may not be seen and producing no symptoms. The affected glands belong to the deep cervical chain; they are fixed deeply, but free from the skin unless far advanced. The situation is usually high up, behind the angle of the mandible; those in the sub-mental, sub-maxillary and retro-pharyngeal regions may also be involved. The distribution is usually unilateral. Sarcomata more often cause metastases than epitheliomata.

Since these growths tend to be highly anaplastic, systemic metastases are frequent and dissemination below the clavicle is present in about one-third of the cases on admission.

Signs and Symptoms

Usually the primary lesion in the nasopharynx causes relatively few symptoms in the early stages. In the more advanced stage, there is a considerable variety of symptoms and signs depending on the nature, size and site of origin of the growth. Among these are nasal obstruction, deafness, otalgia, epistaxis, enlargement of neck glands, defective movement of the palate and changes in voice, dysphagia, visual disabilities, neuralgia, etc.

In order of their frequency the first symptoms complained of are cervical metastases and unilateral deafness or tinnitus. In 80% of cases cervical metastases are present on admission and may be the only symptom or associated with ear disturbances. As the disease progresses, the tumor tends to erode the base of the skull to involve the 3rd to the 12th cranial nerves. Eventually, it may invade the orbit or extend through the eustachian tube into the middle ear.

Diagnosis

Early diagnosis is important, if treatment is to be successful. The chief difficulty arises in finding a cause for enlarged neck glands in those cases where the primary growth is insignificant. The failure to diagnose them early is due both to not suspecting them and the fact that the nasopharynx is frequently a difficult region to examine. The methods employed are visual, digital, radiological and biopsy under general anesthetic with a curette or adenotome. Most can be seen by means of the simple mirror examination.

We should suspect nasopharyngeal cancer in any one of the following situations:

1. Unilateral or bilateral neck gland enlargement not accompanied by any localized symptoms of a primary lesion elsewhere.
2. Unilateral deafness and tinnitus either with or without neck gland enlargement.
3. Unilateral external rectus paralysis or diplopia.

Treatment

Untreated cases usually die within six to twenty-four months.

Cancer here is not suitable for surgical treatment. Most of these tumors are highly anaplastic and about 85% are radiosensitive. Arrest may be effected, but permanent cures are unusual, especially in those which respond rapidly. Prolongation of life for more than 2-3 years can seldom be expected. However, the outlook is by no means hopeless with the newer techniques of radiation now available. A 5 year cure rate of 26.8% has been reported.

The successful treatment of the neck metastases is one of the most important factors in the prognosis of nasopharyngeal cancer. The best results are obtained by radiation rather than by surgery because the neck gland involvement is usually so widespread. Neck dissection is indicated when cervical metastases appear at an interval—usually 6 months or more—after apparent control of the primary by radiation.

2. Cancer of the Palate, Fauces, Tonsil, Base of Tongue and Vallecula

These anatomical divisions of the throat lie in close proximity to each other with the result that a tumor may involve more than one region. However, from the practical viewpoint growths arising from these different areas present distinct clinical problems with regard to treatment. Thus it is essential that the primary site of origin of the

tumor be established where possible. Apart from the growths originating primarily here, others are secondary spreading from the tongue, nasopharynx, larynx and pharynx.

Etiology

Cancer of the palate and fauces sometimes follows hyperkeratosis. No etiological factor has been found in the tonsils—chronic inflammation does not seem to be a precursor.

Pathology

Squamous cell carcinoma is the type most often found and seldom starts in early life. It is of the less differentiated type in the tonsil and base of tongue. Sarcoma is far less common and occasionally appears in childhood. It is usually rapid in progress. Melanoma has been seen in the tonsil as a metastasis from the skin.

In all types spread along the lymphatics and into the glands is an early and usual occurrence.

Signs, Symptoms and Clinical Course

The primary lesion here rarely produces any symptoms in its early stages and the growth usually reaches the size of 2-3 cms. before subjective manifestations appear. At this stage, it usually becomes infected so that the first symptom is a slight pain on swallowing or speaking. Others notice, as the first symptom, a pain in the ear or angle of the jaw or the back or side of the head. Other first symptoms are excessive salivation and a change in the voice.

In some, nothing is noticed wrong in the throat, and the first symptom will be the discovery by the patient of a lump in the neck.

As the disease progresses and extends the patient will complain of pain, fetor, hemorrhage, dysphagia, dyspnea, nasal obstruction, loss of weight, etc. Sometimes the cancerous lymph glands in the neck become infected, producing large abscesses.

Examination

Palate and Fauces. Hyperkeratosis may be present at first. It appears as an irregular, rough, whitish infiltration. When malignant changes occur, there will be an area where the surface is raised and nodular and possibly ulcerated. The margin is hard to the touch. Later it may spread to nearby structures. Epithelioma is the most frequent growth found here.

Tonsil. This is one of the more common sites, and both carcinoma and sarcoma occur. Clinically, there is a difference in appearance between the two. Both cause enlargement of glands beneath or behind the angle of the jaw. There is likely to be continuity of growth uniting the primary and secondary foci through the intervening lymphatics. Reticulo or lymphosarcoma of the tonsil are likely to be associated with widespread affection of glands in the chest and elsewhere.

Base of Tongue and Vallecula. By the time symptoms draw attention to the growth, the disease has usually progressed far. Examination reveals ulceration at the base of the tongue and

displacement of the epiglottis. Frequently, the growth is obscured by pooling of the saliva. Anaplastic carcinoma is the usual type, and spread to the neck glands is early.

Diagnosis

Adequate examination of the back of the mouth is most important in the diagnosis of these lesions. A high index of suspicion of malignancy on the part of the doctor is very important, as this is a region frequently affected by both benign and malignant lesions. Digital examination is very important in lesions of the base of the tongue.

Benign lesions should respond to the appropriate therapy within a reasonable length of time. Failure of these lesions to do so, necessitates the taking of a biopsy to determine the type of growth, both for control of treatment and for prognosis.

Treatment

The usual treatment methods are:

1. Removal of the growth by excision or diathermic coagulation.
2. Radiation or radium therapy.

These methods may be used alone or in combination.

Palate and Fauces. For chronic hyperkeratosis with early malignant changes or for low grade carcinoma of limited extent, diathermic excision and coagulation may be used. For more active growths, Cobalt therapy is recommended. Insertion of radium needles is sometimes used here also.

Tonsil. A combination of X-ray therapy and interstitial radiation rather than surgery is indicated. Surgery here to be effective has to be of a radical nature. It may be used in cases of radiation failures.

Base of Tongue and Vallecule. The same treatment as for the tonsil is recommended here.

Cervical Lymph Node Metastases. Neck dissection is the method of choice in all operable cases. Radiation therapy should be used where the glands are inoperable, or in other cases where operation cannot be done due to the presence of an inoperable primary.

Surgical treatment of the neck glands is contraindicated in the following situations:

1. Where the primary is uncontrolled.
2. Metastases elsewhere in the body.
3. Fixed glands—to bone, carotid artery, etc.
4. Ulcerating secondaries (these are helped by radiation).

A prophylactic block dissection of the neck glands is recommended by some authorities.

Prognosis and Results

In sarcoma, the outlook is hopeful for the immediate future, as the disease remains localized for some time, and progress is occasionally slow.

With carcinoma, the prognosis depends on the situation and size of the growth. In the tonsil, the percentage of 5 year cures, in cases where the primary is less than 2 cms. has been reported as high as 40% and in the palate as high as 57%.

Malignancies of the base of the tongue and vallecule are extremely unfavorable whatever method of treatment is employed.

Extension to the glands in all these lesions makes the prognosis much less favorable.

Pharyngeal Wall and Cervical Esophagus

The unique or peculiar relationship of the pharynx and larynx has made it difficult to classify tumors in the lower throat. In the literature, we find them referred to as extrinsic laryngeal (post cricoid), laryngo-pharyngeal and cervical esophageal.

Advanced tumors in this laryngo-pharyngo-esophageal region are almost impossible to differentiate as to their site of origin. However, as they present comparable problems in treatment they may be considered together. At the present time, the surgical treatment of cancer of this region depends more on the local size and extent of the tumor than on its origin and type. They have a similar etiology and symptomatology, but there are differences in pathology.

With modern methods of radiological and endoscopic investigation, it is possible to differentiate most of these tumors, providing they have not advanced too far. In 1943, Lederman suggested the following classification of laryngo-pharyngo-esophageal tumors.

1. **Epilaryngeal Group**—tumors related to the laryngeal inlet, that is, epiglottis, aryepiglottic folds, arytenoids.

2. **Epi-esophageal Group**—comprising all the tumors of the laryngo-pharynx not related to the laryngeal inlet, that is, pyriform fossa, posterior and lateral pharyngeal walls and the cervical esophagus.

This scheme serves to emphasize their relationship to the food passages rather than the larynx.

For the purposes of tumor classification he defines 3 groups of neoplasms as occurring in this epi-esophageal region:

1. Cricopharyngeal
2. Pharyngo-esophageal including unclassifiable lesions
3. Cervical esophageal

The first group includes all tumors arising from the regions usually designated post cricoid or mouth of esophagus.

The second group includes all tumors arising from the region of the esophagus, just below the crico-pharyngeal sphincter. These tumors affect both the lower pharynx and upper esophagus. Frequently, both regions are involved to an extent which makes it impossible to differentiate them from advanced crico-pharyngeal or esophageal lesions.

Tumors of the third group are uncommon and they are considered because they involve the region under discussion, in their advanced stages.

Etiology, Age of Onset and Sex

The number of cases of neoplasms in this region is difficult to assess due to the differences in

classification, but it is about 4% of all cancers.

It is a disease of elderly subjects, predominantly male. Only in malignancies of the post cricoid and cervical esophageal region do females predominate.

The etiology is unknown, but there is a statistical relationship between heavy smoking, alcoholism, iron deficiency anemia and neoplasms in this region. In Scandinavia much emphasis is placed on iron deficiency anemia and chronic hypopharyngitis (Plummer Vinson Syndrome) as a precursor of this disease in women. Usually in women, the onset is at an earlier age than in men.

Pathology

Epidermoid carcinoma is the predominant morphologic type—over 90%. Most of the rest are adenocarcinomas and lymphomas. More than half of them are of the poorly differentiated type.

Post cricoid carcinoma is usually of a well differentiated keratinizing type.

Spread along the lymphatics to neck glands usually occurs early. In about 20% of the post cricoid tumors cervical metastases are found at the first examination and in about 60% of the cases of the posterior and later pharyngeal walls. The glands are characteristically of a stony hardness and frequently fixed to the carotid.

Signs and Symptoms and Clinical Course

The primary growth usually reaches a fairly large size before the patient becomes aware of any abnormality.

The chief early symptom is some form of discomfort in the throat. In the later stages there is dysphagia. Those that arise from the pyriform sinus, or mouth of esophagus give rise to dysphagia earlier than the growths which originate at higher levels in the posterior and lateral walls.

The second most frequent symptom is the appearance of a lump in the neck. Occasionally, cervical metastases occurs as the first symptom with no complaints referable to the throat—silent primary.

As the disease progresses, dysphagia increases and without treatment death finally occurs from cachexia, inanition, hemorrhage, suffocation or intercurrent disease.

Examination

In the pharynx the primary lesion presents either as a bulky mass or as a flat indurated ulcer. The lateral wall is the site of origin more than twice as often as the posterior wall. Early lesions of the hypopharynx and cervical esophagus are frequently not seen on indirect examination and require endoscopy and radiology.

For advanced lesions, x-ray is of greater value than direct examination for detecting the true situation and extent of the tumor. X-ray studies should include a soft tissue lateral film of the neck, tomography and barium swallow.

Diagnosis

The clinician must suspect malignancy in any patient with the following:

1. Dysphagia and enlarged neck glands.
2. Subjective or objective lump in the throat.
3. Women with dysphagia and iron deficiency anemia.

In addition to the history and physical examination the following special investigations are necessary:

1. Mirror examination by a qualified observer.
2. Radiological investigation.
3. Endoscopic investigation.

A biopsy is obtained of the tumor or suspicious area for histological confirmation of malignancy.

Differential Diagnosis

The two most frequent diagnostic errors made in dealing with this disease are globus hystericus and thyroid disease.

Treatment

Until recent years, cancer of this region has been treated mostly by radiation. But results have been generally poor—some centres reporting only about 6% net cure rate. Radiation is frequently used in inoperable cases and a small but definite number of cases has resulted.

Limited growths of the pharyngeal wall and pyriform fossae and cervical esophagus may be excised, but the prospects of cure are uncertain.

Cervical esophageal and laryngo-pharyngeal and post cricoid carcinoma, if discovered reasonably early, can be cured surgically. Even if it is advanced and with cervical metastases, a control of growth may be obtained by radical surgery plus substantial radiation. A five year cure rate of 36% has been reported using this method.

Prognosis

In sarcoma, the outlook is hopeful for the immediate future as the disease remains localized for some time. With carcinoma, the outlook is more favorable in the upper regions than in the lower. Presence of cervical metastases in the beginning, or any time during the course of the disease, makes the outlook considerably worse.

Cancer of the Larynx

Cancer here is either primary or due to direct invasion from neighboring structures. One fully investigated case of metastatic cancer in the larynx from a skin melanoma has been reported in the literature. It may spread outside the limits of the larynx and involve the pharynx, esophagus, tongue and trachea.

Clinically, it is divided into three general groups:

1. Intrinsic—growths arising from the interior of the larynx—chiefly from the vocal cords and occasionally the ventricles.
2. Sub-glottic—growths originating from below the vocal cords in the area bounded by the cricoid cartilage. They practically always occur in the anterior part of the subglottic wall.
3. Extrinsic—growths arising from its outer walls—upper surface of the ventricular bands, epiglottis, aryepiglottic folds and post cricoid region.

Etiology and Incidence

It comprises about 2% of all human cancer. It occurs most often in middle and old age and predominantly in males (97%).

The incidence of intrinsic and extrinsic is about equal. Statistics tend to show that it is on the increase and tends to parallel the undoubted increase in the incidence of lung cancer and so may have the same etiological factors as the latter.

Pathology

96% are squamous cell carcinoma. In the intrinsic type, over two thirds are well differentiated and in the extrinsic type about one half are of this type. Sarcoma more often occurs in the subglottic region. Metastatic spread to the cervical glands rarely occurs early in the intrinsic type.

Distant metastases are very rare.

Signs and Symptoms and Clinical Course

The symptoms of laryngeal cancer vary markedly depending on the site of origin and stage of growth.

Intrinsic

A change of voice is at first the only symptom. The progress of the disease is usually slow and it may be one to six years in untreated cases, before aphonia, dyspnea, stridor and dysphagia appear. Eventually it may penetrate the larynx and invade the soft tissues of the neck.

On examination it usually appears as a granular, papillary outgrowth or as a flat ulcer most frequently situated on the anterior two thirds of the vocal cords. In later stages it infiltrates more deeply with eventual fixation of the cord. It may spread upward into the ventricle and across the commissure to the opposite cord. Usually it remains fairly well localized until death.

Sub-Glottic

Voice change is an early sign, if it starts in one of the vocal cords. But if the vocal cord is not involved early, the symptoms are vague—voice tiring, intermittent huskiness and local discomfort. As the disease progresses, dyspnea on exertion and stridor appear as the region becomes stenosed.

Extrinsic

The early symptoms are vague and frequently overlooked. Slight discomfort in the throat and slight pain on swallowing is often all that occurs. Hoarseness almost always occurs as the second symptom in the moderately advanced stages. The appearance of an enlarged neck gland is third in frequency as the earliest symptom and occurs as the initial symptom in about 20% of cases.

On examination, these growths are generally unilateral and ulcerate early. There is usually marked accompanying inflammation and edema of the surrounding tissue. Cervical metastasis frequently occurs early and almost always later in the disease.

Diagnosis

There are only three important symptoms in laryngeal cancer — hoarseness, persistent pain and

discomfort on swallowing or the appearance of cervical metastases. A diagnosis of malignancy can only be made with certainty by examination of a biopsy specimen.

Radiological investigation is useful to determine the true size and extent of some of the extrinsic and subglottic tumors.

Treatment

Two methods are available, surgery or radiation. Which method should be employed in individual cases depends partly on the surgical and radiotherapeutic skills available in a given centre. In the treatment of intrinsic cancer, radiation treatment has been equally as successful as surgery.

However, Hayes Martin of New York is of the opinion that surgery will cure a higher percentage of cases of both extrinsic and intrinsic laryngeal cancer than will radiation provided the growth is in an operable stage. In a large series only about one in three cases of extrinsic laryngeal cancer were considered operable. Three year cure rates of as high as 50% have been reported.

In advanced cases with cervical metastasis radical surgery plus substantial radiation has been used with some success.

The prognosis in laryngeal cancer depends on many factors, the chief of which are the size of the growth and the presence or absence of neck gland metastasis. This further emphasizes the importance of early diagnosis and treatment in this disease.

Discussion following Dr. McGoe's paper:

Dr. Robert Cook pointed out that up to 1945 only palliative treatment was used for malignant lesions of the larynx and pharynx. The five year cure rate throughout the world was reported from zero to ten per cent. Now with radical surgery the world literature reports a 35 per cent of five-year cures of pharyngeal cancers. He noted two-thirds of laryngectomized patients can use their esophagus for speech and apparently it is not too difficult for this method of speech to be learned.

Dr. R. J. Walton, Director Cancer Institute: Methods of radiotherapy in diseases of the throat are:

- a. Implantation of radioactive materials.
- b. Placing of radioactive materials within the cavities.

- c. External irradiation by either radium bomb, deep or supervoltage x-rays or Cobalt 60 units.

As far as the treatment method is concerned, at one time surgery was used for early lesions, radiation for the later ones. I feel that, in some situations, this could, with advantage, be reversed, particularly in intrinsic lesions of the larynx. For example, radiation in the early stages produces results as good as surgery without the necessity of removing the larynx, while radiation is contraindicated in late cases by the presence of perichondritis,

Bibliography

1. Diseases of the Nose and Throat—6th Edition: St. Clair Thomson and V. E. Negus.
2. Cancer of the Head and Neck: Hayes Martin, M.D., New York, N.Y.
3. British Journal of Radiology: Vol. xxviii, No. 322.

Psychiatry

The Early Recognition of Depression

W. G. Glassco, M.R.C.S., L.R.C.P., D.P.M.

The purpose of this paper is to present the problem of the early recognition of Depressive Illness as it may present itself in the doctor's office. Early recognition of Depression is of two-fold importance, first because of the ever present possibility of suicide and secondly because prompt remission can be obtained in a large majority of cases.

By way of introduction and to review the symptom picture of the Depressive Reaction, I will give a typical example of a case of Involutional Depression in which the clinical picture is unmistakable.

The patient is a 55 year old married woman who was last perfectly well three months ago, at which time she began to sleep poorly and found it increasingly difficult to look after her household.

Her family noticed that at first she seemed to be working harder than usual but found difficulty in making decisions and tended increasingly to criticize herself for all sorts of shortcomings. She gradually lost her appetite, and this is reflected in her loss of 15 pounds in weight. Formerly a brisk cheerful person, she now hardly smiles at all. For the past month she has shown frequent concern over household expenses and now expresses the opinion that she will never be able to pay her bills. During the past three months she has become increasingly preoccupied with constipation and now states that her bowels have ceased to function. Recently she has been going for walks by herself, and on one occasion when her husband went out to look for her, he found her standing close to the river bank. In the last few days she has frequently stated that she does not deserve to live and that the world would be a better place without her. Increasing doses of sleeping pills do not give her a good night's rest, and even when she does sleep four or five hours, she wakes early. It is the first part of the day that seems most difficult for her. Occasionally in the evening she seems almost her old self but even at such times any attempt at reassurance only seems to distress her and cause her to complain that she is a burden to her family.

On examination the patient presents no objective evidence of organic disease although she has evidently lost weight. The electrocardiogram is within normal limits. The Basal Metabolic Rate is Plus 15, but there is a note on the report that the patient was tense and restless during the test.

In the doctor's office she sits rather rigidly and there is little movement of the large joints of her

body. Her fingers, however, are in constant restless movement, picking at the skin round her nails. Occasionally she rocks her body to and fro from the waist. Her face is fixed in an expression of grief and from time to time she moans.

She answers questions relevantly but slowly and in a dull tone of voice. From time to time she speaks spontaneously but only to reiterate monotonous complaints of self disparagement: She says she is a bad woman, she should not be taking up the doctor's time, her case is hopeless and treatment would be useless even if she could pay for it.

The diagnosis of some kind of Depression here is quite obvious and the indications for Electro-shock Treatment as soon as possible are absolute. In the light of present knowledge and practice such a patient has already experienced at least two months avoidable suffering, the family has been much disturbed, and she has been exposed to the risk of death by suicide.

What is now very easy diagnosis might have been quite difficult in the first few weeks of the illness. Not all the signs and symptoms mentioned would have been present, and even those that were present might have been in such nascent form as to be easily overlooked or misinterpreted.

If at the onset of her illness, she had come to her doctor she might have complained only of disturbed sleep and difficulty in making up her mind about things. She might very likely have apologized for not being able to express her complaints more clearly. Tactful questioning might perhaps have elicited some complaint of feeling rather hopeless at times. This admission would likely be quickly followed by a sort of apology for feeling that way. She might explain that her home was happy, her husband kind, her children healthy — and, in fact, it was quite unreasonable for her to feel the way she does.

At that time it might be that the clinical sense of the physician would be intrigued by the fact that the patient made so few random movements of her arms or legs, held her trunk rather rigidly, and had not smiled since she had been in the office. This might be particularly striking to the family doctor who has known the patient well previously. He would, even at this stage, be struck by the change in her personality.

For the physician who sees the patient for the first time at this stage, confirmation of his impression of Depressive Illness may be confirmed by questioning members of the family. It is usually possible to get the report that she has been quite unlike her usual self, that she is not nearly as animated as she usually is and seems always to be finding fault with herself, particularly in the

first part of the day, when she is quite tense, moody and indecisive. In the course of the day she improves, and by evening may be pretty close to her usual self.

With the above early indications derived from the patient's complaints of insomnia, indecision and feelings of mild subjective depression, coupled with her over-apologetic manner, rather rigid facial expression, and slight general motor retardation, it is usually possible to elicit, by questioning an account of further symptoms.

Quite definite suicidal preoccupations may be present at this time, and may be admitted by the patient, in which case the diagnosis should be made and arrangements for Electroshock Treatment started without delay.

A word of caution is indicated in this connection as to the inadvisability of any exhaustive interviewing of the patient at this stage. The patient may, once started, speak very freely about her worries, and the physician may feel that this unloading of emotionally charged material cannot be otherwise than an aid to the patient. Actually this can be a very dangerous procedure in Depression, particularly in unaccustomed hands. The removal of inhibitions at this stage may simply have the effect of making it easier for the patient to carry through a suicidal attempt.

In the above hypothetical case of Involutional Depression, described first in its developed form and later in its earlier stages, most of the features of any Depressive Reaction have been indicated.

These symptoms and signs of Depression may be summarized and recapitulated as follows:

(1) **A subjective depressed mood:** This may not be mentioned by the patient at first, but can usually be ascertained by careful questioning. It is typically associated with ideas of guilt and self-reproach. There is a characteristic diurnal variation of mood, the patient being more depressed in the morning and less depressed towards evening.

(2) **Insomnia:** This is one of the earliest signs to appear and should be considered carefully. Characteristically it makes its first appearance in the early morning, the patient waking early and finding it impossible to get to sleep again. The patient who wakes after four or five hours sleep and remains awake for the rest of the night after adequate bed-time sedation should always be suspected of having a depression.

(3) **Anorexia:** Present in most depressions and in some cases extreme, accounting for considerable weight loss. It is not associated with nausea. A common early complaint is that food seems to have no taste, and there is no interest in eating. To this extent it is part of the general sensory anhedonia of depression. In early depression patients may state that they simply shovel their food down because they feel that they should but

that it has no flavour and that it just seems to lie in their stomach without being digested.

(4) **Indecision:** Commonly an early sign and often a presenting complaint, particularly in ordinarily decisive persons who occupy executive positions. Sometimes the ordinary decisions of the day's work customarily made in the morning are postponed until the afternoon.

(5) **Nihilistic Delusions:** These are characteristic of extreme depression and are expressed in various terms. In extreme cases where the depression has assumed psychotic proportions the patient may claim to have "no brains," "no bowels," or else the idea is expressed that these organs have turned to cement or stone.

In milder, incipient form these ideas are expressed as vague feelings of emptiness in the large body cavities, or as feelings as if the organs contained in these cavities were static and inoperative. The commonest complaint of this nature is a persistent feeling of constipation, which the patient may admit cannot really be so because he has had regular bowel movements, but nevertheless, feels as if his bowels were still full.

These Nihilistic feelings, when related to the stomach, may in extreme cases, provide grounds for the delusion that any food eaten remains indefinitely and unchanged in the stomach.

(6) **Ideas of Unworthiness:** These are closely related to the subjective feelings of guilt and consequent self-reproach mentioned above. In extreme cases these feelings reach delusional proportions and the patient may be convinced that he is going to be put in jail for his sins, or even executed.

In early stages of depression such feelings are latent and may only be expressed in the conventional form of excessive apologies for taking up the doctor's time, or being unable to better express his complaints, or being critical of himself for bothering the doctor at all, because really the illness is trivial and anyway he deserves it.

(7) **Suicidal Preoccupations:** These are not usually volunteered by the patient and may only be elicited by direct questioning. It is an unfortunate fact that suicide may occur with very little warning in the first weeks of a depression.

Often frank, direct questioning will elicit such preoccupations, or even the account of a failed attempt. So often with the confiding of these things there is an outpouring of other unmistakable depressive ideas which serves to put the question of diagnosis beyond doubt.

As indicated previously, it may be just at this point that the physician may deceive himself that since the patient has been so frank and has talked out these painful thoughts that maybe the whole trouble can be solved by psychotherapy. Again it should be stressed that any prolonged sympathetic "talking out" of the patient's troubles at this time may only serve to break down the bar-

rier of indecision and release the more deeply rooted self-destructive drive.

Most depressed patients, at this stage, will accept the prospect of Psychiatric care with possible Electroshock Treatment with very little objection.

(8) **Psycho-Motor Retardation:** This is the term applied to one of the more objective signs of Depression, and it is usually a later sign. It indicates simply a general slowing of body movement, speech and thought processes. It is more or less identical with the psycho-somatic picture of profound grief in the normal person. In extreme cases this slowing is carried to a stage where it amounts to stupor.

In the milder, or incipient stages of this sign, and where its recognition is of great importance, it may not, at first glance be obvious.

Lack of facial expression, especially absent or infrequent smiling, a little pause before a question is answered, an economy of random movement of the limbs may be all that can be noticed.

To the physician who has not known the patient well previously such slowing may simply be assumed to be part of the patient's usual personality make-up. It is, however, one of the signs which the family may note as being in contrast to the patient's usual state, and which they may comment on.

(9) **Agitation:** Along with the above there may be agitation which is expressed in restless movements of the hands, especially the fingers, in spite of the fact that the larger joints—hips, knees, shoulders, elbows—remain unusually still.

The face is relatively immobile, although the eyes may be in constant restless movement. Where agitation is present the patient may be unable to sit still for long, but rises and paces to and fro.

For the purpose of this paper, which is to consider the early recognition of Depression, the precise nature of the Depressive illness is of secondary importance, since it is of primary importance that the Depressive syndrome should be recognized because its possible consequences and the indications for treatment remain essentially the same.

Since, however, other varieties of Depression may present slightly differing initial clinical pictures and may give a different historical background, it might be well to review these and discuss them individually.

Involucional Depression has already been given as an example. It should be perhaps mentioned that its onset in women is usually after the menopause and is not as is sometimes thought, merely a part of the menopausal syndrome. In involucional depression there is sometimes an admixture of delusional thinking of paranoid type. Such patients present themselves with delusions of persecution along with depressive ideas. When such a patient appears both depressed and paranoid, it is generally safer to regard them as primarily de-

pressive in nature until proved otherwise. The immediate indications for treatment are in any case the same. On closer examination the delusions of persecution which may be presented by a depressed patient represent, not a sense of unwarranted persecution, but really a feeling of impending punishment, which they feel is deserved and is therefore part and parcel of their depressive thinking.

Manic Depressive Depression may present no essential difference in clinical character from Involucional Depression and indications for treatment are the same. Diagnosis is made easier by the history of previous attacks. Earlier depressive attacks in younger people may, however, be atypical and are frequently treated as psychoneuroses or considered to be early Schizophrenia. The problem of diagnosis of the exact nature of Depression occurring for the first time in the late second or early third decade is most difficult and extremely important as regards choice of treatment. Many of these young depressed people actually are Schizophrenic and the burden of their care should be transferred to the psychiatrist without delay.

Schizo - Affective Depressions — As indicated above, depressions occurring between fifteen and twenty-five years should be suspected of belonging to this category. Some of them prove ultimately to be early manic depressions while others tend towards established Schizophrenia. Deeply depressed young people are just as suicidal as older ones and insofar as they present Schizophrenic coloring, they are even more unpredictable in this respect. In addition to classical depressive complaints, they commonly present features which should put the practitioner on guard.

(1) Periods of blocking of speech where the patient remains mute for minutes at a time in spite of repeated questioning.

(2) Occasional fleeting light-hearted irrelevant comments on the depressed feelings they have just been describing. Schizo-affective depressions are particularly poor subjects for psycho-therapy, since removal of inhibitions may result in abrupt violent psychotic behaviour.

(3) A tendency to describe their depressed feelings in terms of rather far-fetched and bizarre analogies.

Reactive Depressions. These are depressions in response to situations which might be calculated to depress anyone, but they are exaggerated and last longer than would appear reasonable. They are generally grouped with the psychoneuroses but are usually treated along the same lines as other depressions. These patients are generally considered milder and less suicidal than other depressions.

From the practical point of view they should be suspected of the same potentialities as other depressions. The fact of a depressing external

cause may only be coincidental or may have simply released a latent depression of other type.

Psychoneuroses with Depression. Chronic psychoneurotics with some symptoms of depression are very commonly encountered. Generally speaking, they are not much worse for the depressive element in their illness and not much better after it has been cleared away. Some of these cases are chronic Hysterics and their depressive symptoms are not depressive reactions *sui generis*. Their complaints of depression are too vociferous and they weep too easily. The depressive picture they present is often simply an unconsciously contrived symptom structure, having as motivation the same attempt to control the environment as other hysterical demands.

Some chronic Hysterics are extremely perceptive to changing attitudes in medical treatment and quickly sense the possibilities of any generally successful treatment such as Electroshock treatment. Insofar as they are aware that it is used for certain conditions, they are not unlikely to contrive to present just such a condition as will encourage the use of such therapy on them, not, to be sure, as a means of losing their hysteria, but as a means of furthering their peculiar relationship to their environment, and particularly to the medical portion of it.

It is common knowledge that hysterical patients do make extreme demands for medical attention and will make use of apparent and sometimes quite convincing suicidal attempts which are rarely, and probably accidentally, successful.

Just as the surgeon is sometimes manoeuvred into performing a laparotomy, so sometimes the psychiatrist finds himself giving hysterical pseudo depressions a course of shock treatment, such treatment being soon terminated by the patient.

Obsessional Neurosis at times does seem to shade into a genuine depressive reaction, and such depressive symptoms should be considered on their own merit and treated as such by Electric Shock Treatment if necessary.

Anxiety Neurosis in which the patient has characteristic panic attacks without somatic accompaniments, other than those mediated through the autonomic nervous system, do not show depressive symptoms.

There are, however, two diagnostic pitfalls in this connection:

a) Depressive reactions characterized by extreme agitation may be mistaken for anxiety neurosis unless the other features of depression are looked for or unless it is fully realized that in de-

pression the patient may remain agitated for hours at a time and is in fact never quite free of his tension, whereas the anxiety attack in anxiety neurosis has an abrupt onset, lasts a shorter time, and leaves the patient free of obvious symptoms in the interval between attacks.

(b) Some Depressions, very early in their course, and before anything has been noticed by the relatives, may suddenly produce an acute anxiety reaction which is indistinguishable at the time from a classical anxiety attack. This initial anxiety in depression is more likely to occur in the Schizoid Depressions.

Depression in Organic Disease of the Nervous System

(a) **Cerebral Arteriosclerosis** may be associated with depressive reactions. They are not usually severe and as a rule improve with adequate symptomatic treatment along the lines of rest, sedation and proper diet.

Confusion, restlessness and amnesia for recent events are usually present. If these symptoms clear with rest and the depression continues, the indications for further treatment are the same as for Involutional Depression.

(b) **Senile Depression** — Roughly speaking these are depressive reactions occurring for the first time in patients over 70. If they do not clear with adequate rest and sedation, and the characteristic depressive syndrome continues, they should be treated by Electroshock.

General Paresis (Depressed Type) — Depressed Paretics may come to the doctor's office presenting a syndrome indistinguishable from involutional or Manic Depressive Depressions. In some cases where routine neurological examination is negative, the true state of affairs is not discovered until the routine Wasserman turns up positive and a subsequent colloidal gold curve of Paretic type confirms the diagnosis.

The depressive reaction itself should receive first consideration, particularly if the patient is to be treated in a general hospital. These depressed Paretics show the usual rapid response to Electroshock and usually become fully co-operative to subsequent treatment with penicillin.

As a final word regarding the danger to life in depression, it should be stressed that although in general the depressed patient is not a danger to others, this most emphatically does not apply in the case of the patient's own small children, who may be killed by the patient prior to a suicidal attempt.

Urology

The Value of Aortography in the Differential Diagnosis of Renal Pathology

A. Clifford Abbott, F.R.C.S. (Ed. & C.), F.A.C.S.

John T. MacDougall, F.R.C.S. (Ed. & C.)

Thomas K. Goodhand, M.D.

In recent years aortography has taken its place as a very useful method of visualizing defects in the arterial system and also demonstrating pathological lesions in the kidney parenchyma. Excellent reviews have been published illustrating its indications, limitations and dangers. For the sake of brevity, only minor points will be mentioned relating to these aspects in this paper.

We have used two techniques in aortography. Originally we used a rapid change cassette made by the Picker X-Ray Company. Recently we have used the technique described by Mendenez and Linton¹. General anaesthesia has been used routinely. Originally we inserted our needle below the 12th rib. Recently we have used the interspace between the 11th and 12th rib, staying well away from the Superior Mesenteric and Renal arteries. A small puncture in the skin with a Bard Parker Knife No. 11, facilitates easy movement of the No. 16 needle. We use a stylette in our needle until we walk down the side of the vertebrae. It is removed at this stage in order to know immediately when the aorta is entered. We invariably attach a 50 cc syringe filled with normal saline at this time and gently test the free flow of saline into the aorta. We believe this is a very important safety measure. As soon as this is established, 40 cc of 70% Urokon is injected in a manner that suits the technique we are using.

Figure 1 illustrates why we prefer the interspace between the 11th and 12th rib. Difficulty was experienced in penetrating the small aorta. In our manipulation we temporarily forgot the direction of our needle. You will note it is now pointing downwards toward the Renal and Superior mesenteric arteries. The needle finally penetrated the aorta, and also went partially through the opposite wall. Part of the solution was injected into the retroperitoneal tissues. This caused the patient no inconvenience. Pre-operative sensitivity tests were carried out in all cases. The correct position and angle of the needle is clearly shown in Figure 2. Visualization of an intercostal artery is shown in Figure 3. I wish to present two cases which were diagnostic problems until aortography was carried out.

The Department of Surgery, University of Manitoba Medical School.

The Abbott Clinic, Winnipeg.

Read before the North Central Section Urological Association, Mackinac Island, Michigan, Aug. 30, 1957.

D. T., Male, Age 38:

Dec. 19, 1955: This patient came to our Clinic three hours following passing gross blood in his urine. Complete physical examination was negative, except for gross blood in the urine.

Dec. 20, 1955: B.U.N. 15 mgms % — R.B.C. 4,900,000 — Hemoglobin 98% — X-ray of chest — normal. Intravenous pyelogram reported as normal. He was admitted to hospital for retrograde pyelograms and cystoscopic examination.

Dec. 21, 1955: Cytoscopic examination was entirely negative. Retrograde pyelograms were done and were reported as follows:

X-ray Report: The right kidney is normal. There is a constant filling defect in 2 films in the left lower major calyx. This may be blood clot. Tumour is not excluded. Suggest repeating pyelogram in 7 days. (Figure 4). The patient remained in hospital, bleeding ceased and the urine became normal.

Dec. 27, 1955: Retrograde pyelogram was repeated and the x-ray department reported a normal kidney. (Figure 5). The possibility of a kidney tumour was explained to the patient—exploration suggested. He refused, as no definite diagnosis could be offered. He was discharged and advised to return at once if there was any recurrence of bleeding.

July 30, 1956: The patient returned because of a suspicion of blood in the urine. A complete physical examination was negative, and his urinalysis was normal. An intravenous pyelogram was done and reported as normal.

Aug. 15, 1956: Passed some blood the previous day. Urinalysis showed a few R.B.C. in the urine. Arrangements made for cystoscopic examination.

Aug. 20, 1956: Cystoscopic examination normal. Intravenous indigo-carmin was injected. Dye appeared from both sides in four minutes, grade iv. A retrograde pyelogram was done and was reported as follows:

X-ray Report: On the left side the inferior major calyx is poorly visualized and suggests blood clot. A repeat pyelogram in a few days advised. The patient refused further examination or exploration of his kidney.

Sept. 29, 1956: Came in for check-up. No bleeding in interval. Urinalysis showed a few red blood cells in urine.

Sept. 30, 1956: Cytoscopic and retrograde on left side. The report was negative for any lesion in the kidney.

During October, November and December, the patient came in for re-investigation. There had been no bleeding or other symptoms. The patient



Figure 1
Incorrect direction of needle. It points downwards toward superior mesenteric and renals. The bevelled portion of needle has penetrated the opposite side of aorta.

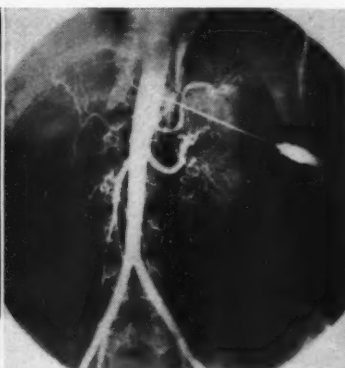


Figure 2
Correct angle and level to insert needle. The needle enters between the eleventh and twelfth rib.



Figure 3
An intercostal artery is injected and the needle has partially penetrated the opposite side of aorta. The use of saline to and fro irrigation prevents this error.



Figure 4
Left Retrograde Pyelogram. Mild overdistension. Note lesion or defect in lower major and minor calyces. Tumor or Blood Clot: December 20, 1955.



Figure 5
Retrograde pyelogram 6 days later. No bleeding in interval. Reported as within normal limits. December 27, 1955.



Figure 6
Immediate X-ray duration injection. Excellent visualization of vascular tree. Note tumor mass in lower pole partially obscured by tubing.



Figure 7
Nephrogram stage—excellent pooling in tumor.



Figure 8
Photograph of Kidney showing tumor—December 31, 1956. Symptoms—One year duration.



Figure 9
Kidney sectioned showing well circumscribed Tumor in lower pole.

was quite sure he had made the correct decision in refusing exploration.

Dec. 25, 1956: The patient had some pain in the left loin and severe bleeding from the urinary tract. An intravenous pyelogram done on Dec. 27, 1956 was reported as negative. He was admitted for an aortogram.

Dec. 28, 1956: An aortogram was done under general anaesthesia. The report was as follows:

X-ray Report: Good filling of the aorta and its branches has been obtained. There is a collection of contrast medium adjacent to the lower pole of the left kidney consistent with a localized tumour. Pathological vessels are present in this area. (Figure 6-7).

X-ray of Chest: Negative.

Laboratory: B.U.N. 15 mgms % — R.B.C. 4,850,000 — Hemoglobin 95%.

Dec. 31, 1956: Left nephrectomy. No vascular involvement apparent. The wound was closed without drainage. His recovery was uneventful. Following discharge he was given a course of Cobalt Bomb Therapy. Figure 8-9 are black and white reproductions of coloured photographs of the kidney.

Our second problem case was an old lady of 74 years of age, in whom we had to make a differential diagnosis between a tuberculous kidney and a tumour.

S. W., Female, Age 74:

June 5, 1957: She was admitted to my service with a history of pain in her back for three months, right lower quadrant pain for three days, with hematuria of two days duration. She was running a low grade fever and had no weight loss. She had some dyspnoea and tachycardia.

Physical Examination: A complete examination revealed the following findings: teeth — carious 2 plus. Chest — there was a suggestion of some dullness in her right upper apex, movements were only fair and some fine crepitations and rhonchi were present in both bases. Blood pressure 170/60. Pulse 84; mild fibrillation. Abdominal examination was negative except for a mobile mass in right upper quadrant.

June 6, 1957: Laboratory: R.B.C. 4,200,000 — Hemoglobin 84% — Sedimentation rate 61 mm/hr. — B.U.N. 18 mgm % — Urinalysis; gross blood — Repeated smears for T.B. were negative — Repeated gastric washes were also negative — W.R. negative.

X-ray Chest: The cardiac silhouette shows some elongation of the aorta. Diffuse fibrotic changes are present in the right upper lung field and there is marked elevation of the transverse interlobular fissure at the level of the second rib anteriorly. While this may be due to an acute in-

fective process that has not as yet resolved, the possibility of tuberculosis must be also considered and clinical evaluation is suggested to determine activity.

June 7, 1957: Spine: X-rays were taken of the dorsal and lumbar spine and partial collapse of T-12 and L-1 was reported. These were repeated and the report is as follows:

Coned Views of the Dorso-lumbar Junction: The bones of the spine are osteoporotic. There is some irregular collapse of T-12 and L-1. This has the appearance of an osteo-porotic collapse rather than a destructive process. There is no evidence of perispinous soft tissue swelling. An orthopedic surgeon was asked to see this patient in consultation and review the plates, and he agreed with the x-ray diagnosis.

June 8, 1957: Cystoscopic examination: The cystoscopic examination was negative except for blood clot protruding from the right ureteral orifice. Indigo-carmin was injected intravenously and appeared from the right ureter in 20 minutes, grade i concentration. On the left side the concentration was 4 in 6 minutes. Retrograde pyelograms were done and the report was as follows:

Retrograde Pyelograms: The left kidney is well visualized and appears normal. On the right side no significant filling of the calyces has been obtained. The renal pelvis is dilated and shows a large irregular filling defect. The ureter is atonic, mildly dilated and displaced medially. The appearance suggests a large tuberculous pyonephrosis (Figure 10).

Specimen of urine collected from both sides were negative except for gross blood in the right specimen. In our opinion the x-ray pictures were positive for tumour. The urinalysis corroborated our diagnosis. The treatment of a tuberculous kidney in our opinion would be Sanatorium treatment first and nephrectomy later. Because of the difference of opinion, an aortogram was done after two weeks of medical care. The report was as follows. The needle has been inserted into the aorta at the lower border of D-12. Good visualization of the aorta and its distal branches has been obtained and also of the renal arteries and the renal circulation. On the left side the kidney appears normal. On the right side the kidney is small and atrophic and with large collection of pathological vessels over the periphery of the lower pole of the right kidney. This is characteristic of tumour staining and the contrast medium pools in the area. These findings suggest a malignant neoplasm, probably hypernephroma. (Figure 11).

June 23, 1957: Right nephrectomy. There was no evidence of vascular involvement. The patient made a very uneventful recovery and was discharged on July 5, 1957.



Figure 10

Right Retrograde Pyelogram. Note sharp pointed upper major calyx and elongation of lower major calyx suggestive of tumor.



Figure 11

The vascular tree is well visualized. Note marked pooling of contrast medium in large tumor mass.

Summary

1. In our first case, surgery was delayed, because we were unable to give the patient a definite diagnosis. An aortogram early in our investigation would probably have made the diagnosis. We therefore feel that in cases of repeated urinary bleeding without pyelographic changes, an aortogram is indicated and justifiable. In this case the tumour appears to be slow-growing. It would be interesting to know the length of time hypernephromas are present before a diagnosis is made.

2. In our second case, in spite of the fact that all investigations weighed heavily in favour of tumour, the aortogram clinched the diagnosis be-

yond doubt. We feel the risk was justifiable.

3. We wish to emphasize the safety value of using saline to check position of the needle before injecting contrast media. We routinely leave the needle in position until plates are developed. Saline solution is slowly injected during this time. We see great advantage in this procedure and no contraindications.

4. We have found no blood extravasations other than staining present in the cases explored after aortograms done in this fashion.

Bibliography

A Technique of Abdominal Aortography and Femoral Arteriography: Charles V. Mendenez, M.W., and Robert R. Linton, M.D. *Surgery*, Volume 40, 4, pages 717-736, 1956.

Surgery

Limitations in the Surgical Treatment of Duodenal Ulcer

R. C. Harrison, M.D., F.R.C.S. (C)

Associate Professor, Department of Surgery,
University of Alberta

The indications for surgical intervention in the treatment of duodenal ulcer are generally relative rather than absolute, and are dependent on the results obtained with continued medical therapy versus the results obtained surgically. There is no question about the necessity for operation in most of the cases of perforation and selected cases of massive hemorrhage. Pyloric obstruction is not an absolute indication unless it is complete and persists following medical management. It is difficult to state mathematically when pyloric obstruction becomes a surgical problem, but it is true that in spite of the fact that half of the patients with 50% barium retention at 6 hrs. will open up on medical management, their long term prognosis is poor. The majority will eventually become candidates for surgical treatment. Most patients that are considered seriously as candidates for surgical treatment are suffering from varying degrees of pain, vomiting, and bleeding, under varying degrees of medical control. The final decision for or against surgery is generally made as a result of the particular prejudice of the patient's doctor. This is not completely illogical, because the long term results of medical management are extremely difficult to assess, and even more difficult following surgical treatment. If the patient is referred for surgery the surgeon usually does one of the twenty available operative procedures, his choice being based on many factors. Too often it is based on his ability to do a certain procedure rather than a careful weighing of the advantages and disadvantages of the various procedures available.

Under good medical management ulcer pain is almost always relieved within one or two weeks of medical therapy, and the ulcer crater heals radiologically in from two to eight weeks. It has been stated that without treatment and dietary control 90% will recur within a year, whereas with good treatment only 10% will recur within that period. However, as the years pass the recurrence rate increases and is in the order of 20%, 30%, 40%, 45% in the subsequent four years. Most patients seen for the first time by their physician with duodenal ulcer have had ulcer pain within the past year and the majority of them will have a recurrence within the next year. This will be considerably modified by treatment, in that 80% or more will be able to carry on indefinitely with

treatment, whereas only 50% will be able to do so without medical care and dietary control^{1, 2, 3}.

Patients presenting themselves for treatment can be divided into several categories.

(1) Those that heal and stay healed with no medication or diet.

(2) Those that heal and stay healed with medication and dietary control.

(3) Those that heal but recur occasionally (annually or semi-annually) and only receive care during exacerbations — not seriously affected in day to day living.

(4) Those that heal but recur occasionally (annually or semi-annually) in spite of continuous medication and diet — not seriously affected in day to day living.

(5) Those that heal but recur frequently (more frequently than semi-annually, or remain chronic) — care only during exacerbations — seriously affected in day to day living. Cannot (occupation or obesity) or will not (alcoholic, vagrant, psychotic) follow advice at all times.

(6) Those that heal but recur frequently (more frequently than semi-annually, or remain chronic) in spite of good care — seriously affected in day to day living.

Indications for surgical intervention are not present except in groups 5 and 6, and in those cases where perforation or massive hemorrhage occurs at some time during an exacerbation. Whether or not surgical intervention is advised in these cases depends largely on the prejudice of their doctor, but, of course, is influenced to a considerable extent as well by the patient's age, the length of his ulcer history, the extent to which he is economically disabled, and last but not least the prejudice of the patient himself regarding surgical treatment. This last factor is largely dependent on the experience of his lay informants.

The threat to life with continued medical management versus surgical treatment is approximately the same⁴. There is no doubt that the patient can be relieved of his ulcer pain, and it will not recur in the great majority of cases following surgical treatment, and this surely argues in favor of surgical intervention. However, there is a morbidity following surgical treatment which, while it is not as severe as continued ulcer distress, makes the patient's physician reluctant to recommend surgery.

The complications following the surgical treatment of ulcer are mortality, recurrent ulcer, early post cibal dumping, late cibal dumping, bilious vomiting, diarrhoea, food intolerances, and inability to gain weight. Mortality has already been considered, and varies directly with the magnitude

of the operative procedure, ranging from $\frac{1}{2}$ to 3% in experienced hands. The incidence of recurrent ulceration varies inversely with the magnitude of the operative procedure, whereas most of the other symptoms increase in frequency and severity as the magnitude of the procedure is increased.

The post operative symptom complexes mentioned are familiar to all of us, and their reported frequency depends entirely upon the care with which the post operative patient is questioned. If leading questions are employed at least 75% will admit to one or more of these symptoms early in their post operative period, but fortunately the side effects diminish in frequency and severity until at the end of two years only 40% admit to less than a perfect result. Dr. Alan Gilbert, of our Department of Medicine, recently reviewed 100 consecutive gastrectomies done in the University Hospital and found that at the end of two years one-half the patients were still below their pre-operative weight, 20% of them being 20 lbs. or more below their preoperative weight. There was good correlation between severe weight loss and persistent dumping, and it was also significant that those who were below their ideal weight preoperatively tended to lose more weight than their stouter fellows. In spite of these findings 90% stated that they felt the operation had been successful and 95% would recommend it to a friend. We, as surgeons, must admit to an undesirably high incidence of mild post operative symptoms, (40%), a much smaller group (10%) with moderate residual symptoms, and an unfortunate 2 or 3% whose day to day living is seriously interfered with by severe persistent post operative sequelae. Most surgeons are of the opinion that their personal series, using their favourite operation, is without blemish, but, if they have critically examined their results, they know that a significant percentage still have symptoms subsequent to surgery, or more frequently, develop new symptoms since their operation.

There appears to be ample reason for residual symptoms following gastric surgery. Indeed, the physiology of the gastroduodenal area is so seriously affected, it is surprising that postoperative distress is not universal. In the classical Polya, the storage capacity of the stomach is reduced by three quarters, the remainder of the gastrointestinal tract is deprived, at least temporarily, of its autonomic nerve supply, the antrum whose secretion is alkaline is discarded, the pylorus is irretrievably lost, and the bolus of food directed to the jejunum where it hastens on down the gastrointestinal tract. Biliary and pancreatic secretion is stimulated inadequately, arrives as an irritating mixture in the empty stomach too late to mix with the bolus, and eventually follows the food down without properly aiding with its digestion.

The history of surgical procedures for ulcer has been based on a search for an operative procedure

with a low ulcer recurrence rate and minimal post operative sequelae. During this search almost every possible combination and permutation of the upper gastrointestinal tract has been developed. Because of the prohibitive mortality of gastric resection drainage procedures such as gastroenterostomy or pyloroplasty were generally employed until the 1930's, although it took many years for it to be recognized or admitted that these procedures were followed by a high ulcer recurrence rate, this in spite of the fact that they were done on people with only moderate symptoms. Because of this, resections of the antrum plus varying percentages of the body were again employed when the operative mortality was successfully lowered during the thirties and forties. For this, modifications of the Billroth procedure were used, and the problem of ulcer recurrence was successfully solved by a three quarter resection of the stomach. As more and more of the stomach was removed the incidence of the post operative sequelae rose, as the stomal ulcer rate diminished. When vagotomy was introduced in the 1940's it was then combined with all the previously known operative procedures, and since then has been combined with two or three not previously developed at that time. As a result there are now available 20 or 30 surgical operations for duodenal ulcer, each with its staunch supporters. The hope is that the magnitude of the operation can be reduced, the ulcer recurrence rate kept to an acceptable minimum, and post-operative sequelae avoided.

Operations for duodenal ulcer can be divided into three general groups:

(A) Drainage Operations

1. Gastroenterostomy and vagotomy.
2. Pyloroplasty and vagotomy.

(B) Resection of antrum and varying percentage of fundus.

1. With and without vagotomy.
2. Gastrojejunal or gastroduodenal reconstruction.

(C) Resections of the fundus.

1. Tubular.
2. Segmental, with and without vagotomy.

In the first group the mortality is low and the operation easy, which makes it a favourite for the occasional surgeon. Loss of weight and dumping is generally not a serious problem in cases following this operation, but diarrhoea is frequent and may be persistent, and the recurrent ulcer rate is high (5 to 15%).

In the second group the problem of dumping and weight loss increases as the extent of the resection is increased, but the incidence of stomal ulcer increases if the operation is made more conservative. Attempts have been made in many quarters to strike a happy balance by adding

vagotomy to a limited resection, and in some instances only an antrectomy and vagotomy have been done. In all of these procedures the incidence of post operative sequelae is less if a gastroduodenal anastomosis is performed. Because there are so many combinations in this second group with a short follow up it is impossible at the moment to assess them adequately.

For reasons that will be outlined a small but enthusiastic group of surgeons have elected to leave the antrum in position and resect only the acid producing portion of the stomach in varying degrees. Here again the results with this type of procedure cannot be accurately evaluated at the present time.

In lieu of an adequate clinical assessment of these procedures, let us look at the physiology of peptic ulcer and see if it will help us out of this chaotic situation. While you might object to any conclusions reached from animal experimentation, it is true that surgical procedures carried out on dogs, that have resulted in a high ulcer recurrence rate have also proved to be unsatisfactory on humans. It has been stated with some justification that animal experiments have been successfully translated into human experience in this field as in no other.

The production of an ulcer appears to be either an increase in acid-pepsin production, a failure of neutralization, buffering, or dilution, or a reduction in tissue resistance. The theories regarding the aetiology of peptic ulcer are legion, but the evidence points most strongly to an increase in acid and pepsin, particularly the former. Ivy has concluded "The duodenal ulcer patient regardless of the stimulus employed tends to secrete a greater volume and a greater quantity of acid than the normal." Duodenal acidity is increased in patients with duodenal ulcer, as determined by aspiration and direct *in situ* pH methods^{5, 6}. A review of the experimental and clinical evidence would suggest that peptic ulcer is due to an increase in acid secretion, and that this increased secretion is not due to an abnormal mechanism, but to an increased activity of the usual mechanism. It is also possible that the increased secretion is due to a failure of the normal inhibitory factors. These will be briefly reviewed.

Stimulation of gastric secretion

By means of the vagi the thought, sight, smell or taste of food results in the stimulation of acid secretion (Cephalic phase)⁷.

The presence of food in the antrum, or antral distention results in the production of a humoral substance, called gastrin, which results in parietal cell stimulation (Gastric phase)⁸. This effect is dependent on the pH in the region of the antrum, as will be discussed later.

Food products are absorbed from the proximal intestine, and serve to stimulate acid secretion (Intestinal phase)⁹.

The influence of stress¹¹ and the role of the pituitary adrenal axis may play some part in the control of acid secretion, but it is probably that this is relatively minor when compared with the cephalic and gastric phases^{12, 13, 14}. In passing, one might mention for the sake of completeness the possible endocrine function of the pancreas^{15, 16, 17, 18}. While several clinical cases of recurrent stomal ulceration associated with islet cell tumors of the pancreas have been reported, in no instance has the stomal ulcer been cured by mere removal of the islet cell tumor. In every instance a supplementary operation was done and so this thesis is by no means proven.

Inhibition of gastric secretion

The vagus contains both stimulating and inhibitory fibres, and emotional states may result in inhibition or stimulation of gastric secretion (Cephalic inhibition)^{19, 20}.

Following a fatty meal humoral agents are formed in the mucosa of the intestine (enterogastrome) which tend to inhibit acid secretion by the fundus of the stomach. (Intestinal inhibition)²¹.

It was first observed by Sokolov²² that acid in the region of the antrum inhibited secretion by the fundic cells, and Dragstedt and his associates have recently demonstrated that parietal cell secretion of acid is markedly influenced by the pH in the region of the antrum^{23, 24}. He found that, when the antral environment was acidic, parietal cell stimulation was minimal, whereas, when it was bathed by a relatively alkaline solution, gastrin stimulation and parietal cell secretion was maximal. We demonstrated²⁵ that there might be an actual inhibitory substance produced by the antrum, providing it was maintained in an acidic environment, and suggested that the antrum might be preserved in surgical procedures if its environment remained acidic (Antral inhibition). Dr. Dragstedt has been unable to confirm this experiment²⁷, but it has been duplicated by Jordan and Sand²⁶. It is certainly true, and has been demonstrated repeatedly in animals and humans that an antrum left in an alkaline environment (the pyloric exclusion operations of Eiselsberg, Finsterer and Devine) results in a very high incidence of stomal ulceration (40%). In the experimental animal it has been demonstrated that preservation of the antrum in an acidic environment will protect the animal against ulceration^{28, 29}.

The Effect of Standard Surgical Procedures on Acid Production

It is interesting to observe in the experimental animal what happens to the acid output of a gastric pouch when a gastroenterostomy is done, and with this information it is not difficult to appreciate why the incidence of stomal ulceration in the human following this procedure occurs as frequently as 35% (Fig. 1). The explanation appears to be that diversion of the alkaline duodenal secretion onto the

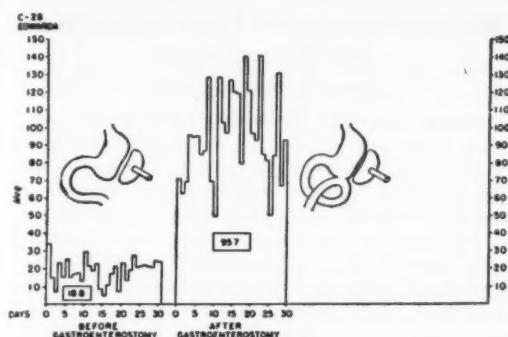


Figure 1

The Effect of Gastroenterostomy on the Secretion of a Denervated (Heidenhein) Pouch. (Courtesy, Kanar and Harkins: *Western J. of Surg., Obst. and Gynec.*, 61:679, 1953.)

antral mucosa results in an increased production of gastrin by the antrum, with a resultant increase in acid production by both the body of the stomach and the gastric pouch. This does not occur to as marked a degree, if drainage is accomplished by means of pyloroplasty rather than gastroenterostomy, and, of course, does not occur at all if the antrum has previously been excised.

A similar increase in pouch secretion is seen following vagotomy, and this too is antral in origin, as it does not occur if the antrum has been previously removed. Vagotomy of course eliminates the cephalic phase, but it is not sufficiently appreciated that it also increases the humoral phase. This "paradoxical effect of vagotomy" is probably similarly due to a reduction of acidity in the region of the antrum. If a gastroenterostomy is added to vagotomy the pouch secretion increases even more, for reasons previously explained (Fig. 2). It

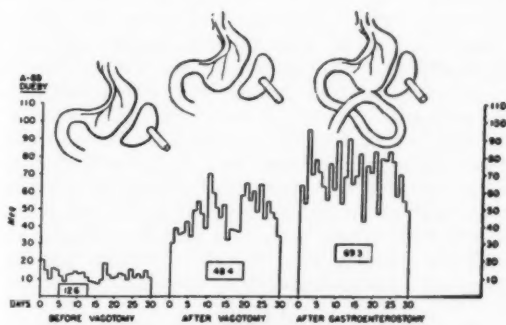


Figure 2

Failure of Gastroenterostomy to Reduce the Increased Pouch Secretion Subsequent to Vagotomy. In this experiment the second diagram shows the increased secretion following vagotomy, and the third a slight further increase following gastroenterostomy. In Harkins 5 dogs the average change before and after gastroenterostomy was not marked. Gastroenterostomy, however, did not reduce the hyper secretion subsequent to vagotomy. (Courtesy, Kanar and Harkins: *Western J. of Surg., Obst. and Gynec.*, 61:679, 1953.)

is important for surgeons to realize that drainage procedures in themselves have an adverse effect on acid secretion, and tend to increase the likelihood of stomal ulcer. In fairness to the enthusiasts for vagotomy and drainage procedures it should be pointed out that the experimental evidence is conflicting, but it should cause one to pause and wonder whether the problem of ulcer recurrence is not going to be a serious one when these two procedures are combined. The stomal ulcer rate as presently reported is sufficient cause for worry, and, if history repeats itself, the passage of time will increase this to levels which might approach that following gastroenterostomy alone. It is also salutary to remember that the true incidence of stomal ulceration following gastroenterostomy alone was not appreciated by the surgeons of North America until the procedure had been widely practiced for 20 years.

Antrectomy and Limited Fundic Resections

As has been mentioned, in an attempt to keep the recurrent ulcer rate low and also avoid the undesirable side effects of radical fundic resections, many combinations have been worked out involving a combination of antrum resection, vagotomy, and limited resections of the acid secreting body and fundus of the stomach. It should not be forgotten that the antrum normally secretes an alkaline mucous substance, and Wangensteen has remarked that, if the antrum was situated normally at the proximal end of the stomach, its removal would not have been so universal. It was established decades ago that removal of the antrum with or without a small portion of acid secreting mucosa was an inadequate surgical procedure for duodenal ulcer. Whether or not the addition of vagotomy will prevent ulcer recurrence remains to be seen.

Resection of the Fundus and Antrum Preservation

Acting on the belief that the antrum in an acid environment is beneficial rather than harmful Wangensteen²⁰ has reemployed two previously described procedures in which only the acid producing fundic portion of the stomach is removed, and the antrum preserved. The early results following his segmental resection appear to be satisfactory, but he has had some ulcer recurrence with tubular resection. In some quarters vagotomy is of course being added to these procedures. Every procedure described in the past 25 years has had vagotomy added to it, and a small series followed for an inadequate time enthusiastically reported.

If we accept the postulate that the successful treatment of peptic ulcer is best directed at a reduction in parietal cell secretion or acid, we should search for an operation which will upset the anatomy and physiology in the gastroduodenal area to a minimal degree. This, in turn, should reduce the incidence of undesirable postoperative sequelae, and make our medical confreres more

enthusiastic about the surgical treatment of this problem.

Translated into practical terms the reduction of the storage capacity of the stomach should be minimal, the autonomic nerve supply to the gastro-intestinal tract should be preserved, the pylorus should be retained, and the normal gastroduodenal relationship maintained. Whether or not the antrum should be retained is debatable, and indeed it is impossible to answer this question at the present time. It would appear that if acid levels are adequate the antrum will behave itself and not produce acid stimulating gastrin in excessive amounts. If, however, acid levels are too high the threshold of mucosal resistance will be exceeded, and ulcer will result.

Presently available procedures for ulcer control either fail to adequately prevent ulcer recurrence, or leave significant undesirable sequelae, or are lacking in both respects. The approach to the problem should be physiological, and all new procedures carefully evaluated first in the experimental animal.

Bibliography

1. Eusterman, G. B. and Balfour, D. C.: *The Stomach and Duodenum*. Philadelphia, W. B. Saunders Co., 1936.
2. Sandweiss, D. J., Sugarman, N. and Lockwood, B. C.: *J.A.M.A.*, 138: 552, 1948.
3. Emery, E. S. and Monroe, R. T.: *Arch. Int. Med.*, 55: 271, 1935.
4. Ivy, A. C., Grossman, M. I. and Bachrach, W. N.: *Peptic Ulcer*. The Blakiston Company, Philadelphia, 1950.
5. Kearney, R. W., Comfort, M. W. and Osterberg, A. E.: *J. Clin. Investigation*, 20: 221, 1951.
6. Rovelstad, R. A., Owen, C. A. Jr., Magrath, T. B.: *Gastroenterology*, 20: 609, 1952.
7. Pavlov, I. P.: *Work of the Digestive Glands*. Charles Griffin and Company, London, 1910.
8. Edkins, J. S. and Tweedy, J. M.: *J. Physiol.*, 38: 263, 1909.
9. Ivy, A. C. and McIlvain, G. U.: *Am. J. Physiol.*, 63: 418, 1923.
10. Sauvage, L. R. et al: *Surg. Gynec. and Obst.*, 96: 127, 1953.
11. Selye, H.: *The Stress of Life*. McGraw-Hill, New York, 1956.
12. Villarreal, R., Ganong, W. F. and Gray, S. J.: *Am. J. Physiol.*, 183: 485, 1955.
13. French, J. D. et al: *Surgery*, 34: 621, 1953.
14. Ragins, H. et al: *Surgery*, 40: 886, 1956.
15. Poth, E. J.: *Proc. Soc. Exp. Biol.*, N.Y., 74: 514, 1950.
16. Poth, E. J. and Fromm, S. M.: *Gastroenterology*, 16: 490, 1950.
17. Forty, R. and Barret, G. M.: *Brit. J. Surg.*, 40: 60, 1952.
18. Zollinger, R. M. and Ellison, E. H.: *Ann. Surg.*, 142: 709, 1955.
19. Barcena, J. et al: *Surg. Forum*, 7: 380, 1956.
20. Wolf, S. and Wolff, H. G.: *Human Gastric Function*, Oxford University Press, 1943.
21. Kosaka, T. and Lim, R. K. S.: *Proc. Soc. Exper. Biol. and Med.*, 27: 890, 1930.
22. Sokolov, as quoted by Babkin, B. P.: *Secretory Mechanism of the Digestive Glands*. Paul Hoeber, Inc., New York, 1950.
23. Thomas, J. E., Crider, J. O. and Morgan, C. J.: *Am. J. Physiol.*, 108: 683, 1934.
24. Woodward, E. R. et al: *Gastroenterology*, 27: 766, 1954.
25. Harrison, R. C., Lackey, W. J. and Hyde, H. A.: *Ann. Surg.*, 144: 441, 1956.
26. Jordan, P. H. and Sand, B. F.: *Surgery*, 42: 40, 1957.
27. Personal Communication.
28. State, E. et al: *Surgery*, 38: 143, 1955.
29. Brackney, E. L., Campbell, P. S. and Wangenstein, D. H.: *Proc. Soc. Exper. Biol. and Med.*, 86: 273, 1954.
30. MacLean, L. D. et al: *Surgery*, 35: 705, 1954.

Multiple Injuries — Their Assessment and Management

James S. McGoey, M.D.

Proper early care in multiple trauma can save many lives and greatly lessen disabilities. More useful years of life are lost because of trauma than because of any disease including cancer and heart disease. For the most part, the people involved in accidents are otherwise healthy and usually in the active, productive years of life. The permanent disablement or death of a young man with a dependent family or of a young mother is a serious loss to the community. The saving of these lives is most important.

The principles guiding the early care of the severely injured are not numerous nor difficult for any physician to comprehend. One of the reasons why the subject of early care of the injured has received so little emphasis is that the techniques and principles involved are simple and few. The treatment of single injuries is usually quite good, but when multiple injuries occur, they are frequently not recognized and improperly evaluated so that their examination and care are in need of definite revision.

Adequate care of the injured is the responsibility of the profession in all communities. Accidents are endemic in our present society. None of you here who are practicing in the country districts or practitioners in the city will have the opportunity to observe a large number of cases suffering from the results of severe multiple injury. However, you will all, without exception, be at some time confronted with such a patient. You have the knowledge of what to do for each individual system or part which is injured; but will you, at such a time, have the experience and judgment to evaluate as to priority of injuries, and proceed promptly. The variations of trauma are almost endless, and those resulting from traffic accidents especially so. The physician who attends these victims is called upon to meet the most demanding requirements of thoroughness, common sense, and decisiveness of action if the patient is to do well. First things must come first and the physician must use judgment as to the relative priority in such multiple injuries. My discussion today resolves itself in two parts: (1) priority grouping of multiple injuries, and (2) the immediate prompt measures to be undertaken by the initial physician.

Priority

The difficulties in formulating a single priority list are great. Any listing that I could present to you would have some limitations. However, it is very important to have such a working list at hand, as it is a useful guide for inexperienced judgment or overworked powers of decision.

Presented at the Annual Meeting of the Manitoba Medical Association, October 16, 1957.

The following is a list of priority groups in acute trauma:

1. Injuries interfering with initial physiological processes, such as flail chest, tension pneumothorax, cardiac tamponade, head injury and severe bleeding.

2. Injuries whose persistence adds to the shock if allowed to persist, such as perforation of a hollow visceral organ or rupture of the lower urinary tract.

3. Injuries contributing little to the persistence of shock if the affected part is placed at rest, as fracture and soft tissue injury.

This question of priorities is always present in emergency traumatic surgery. If there are many patients, as usually exists in automobile accidents, you must decide at once, which ones must be treated early, and if there is only one patient, the question is: What do you do first? For both circumstances, it is essential to have in mind a workable priority listing, such as submitted above. I feel that such a classification is essential for every physician who may treat trauma; and of course, it is subject to the exercise of good sound judgment.

The first physician to see the injured patient is in the position of importance. His problem is one of evaluation of the severity of the injuries of the patients, the multiple injuries of the individual patient, and establishing the priorities in treatment. The sorting and evaluation of the injured, as developed in both Wars, is well established. The problem there was the care of a large number of casualties in a short space of time, in a small area, with limited equipment and personnel. In our civilian injuries, the problem is somewhat reversed, and is that of giving to a few individuals the meticulous care they require. It is important, therefore, that a simple practical plan based on sound principles of therapy be evolved, which will enable those physicians responsible for this care, to save as many lives as possible. Transportation facilities have so improved that a large number of these patients are arriving at hospital alive. We must be ready to offer prompt life saving treatment. Unfortunately, when we examine the records, we find patients who could have been saved had more vigorous and proper methods been employed. Preservation of life, conservation of tissue and maintenance of function are the three chief objectives to be kept in mind.

If you are the first physician to see the seriously injured patient when he arrives at hospital, yours is a great responsibility. It is essential that you have a system of evaluation already in mind and plan of action to immediately establish.

Plan of Action

History

The knowledge of the trauma pattern is of great value. Attempt to obtain the history as you are starting your treatment. It is helpful to know

if the patient fell ten feet or one hundred feet. If he was in an automobile, was he driving? Was he thrown out onto the pavement? Was he run over? How fast was the automobile travelling? It is helpful to learn about any concomitant general disease, such as diabetes or coronary occlusion.

1. Transfer the patient to a surgical bed and remove all his clothing. Do not hesitate to cut away any clothing. Carry out a rapid and complete physical examination. Avoid unnecessary movements.

Severe respiratory distress has the highest priority for immediate attention. The cause of the distress is usually obvious, such as obstruction of the airway, or "flail chest." An immediate tracheotomy may be lifesaving.

Severe external hemorrhage ranks close behind respiratory obstruction in importance and must be located immediately. When found, the hemorrhage is controlled by clamps or pressure.

2. An evaluation of the degree of shock is essential. This is done by studying the blood pressure, pulse rate, pulse quality, color and temperature of skin, presence of sweating, mental reaction of the patient, age of the patient, and the lapse of time since the accident. Shock varies a great deal and must be re-evaluated. If shock comes on immediately, it is usually due to associated injuries. If it develops later, it is usually due to hemorrhage. Place a No. 16 gauge needle in the vein of the arm; remove blood for immediate typing and cross-matching of blood and establish an infusion of some plasma expander as Dextran. Universal donor blood may be given if conditions warrant. If a state of shock persists, a No. 16 gauge needle may be started in the other arm and blood or Dextran forced into the vein. At times, as in case No. 3, operative intervention is necessary to correct the cause of non-responsive shock.

Most physicians are prone to underestimate the degree of blood loss in multiple injuries, and the reports of over-transfusion are almost non-existent. Reference is made to a case (Korean War—American Surgery—March '55) who received 46 pints of blood in the first 24 hours and survived. It is essential to administer blood as required. A persistently low blood pressure nearly always indicates the need for further transfusion.

3. The re-examination of the patient continues as the shock is evaluated and therapy started. All clothing has been removed from the patient and emergency factors controlled. It is now essential to proceed with a complete orderly examination of the patient according to systems, as head injuries, abdominal injuries, genito-urinary injuries and injuries of the extremities.

a. Head Injuries

The most important factors in attempting to evaluate brain damage are the degree and duration of unconsciousness. The prognosis becomes more

hopeless the deeper and longer the state of unconsciousness. The state should be re-checked and recorded. Localizing and lateralizing signs as dilated pupils, tendon reflexes, etc., are important to be recorded and also any changes in these.

The possibility of extra-dural hemorrhage must be kept in mind and evidence of trauma in the temporal area looked for.

b. Chest Injuries

Chest injuries together with head injuries, are the cause of nearly all deaths in severe trauma. If there is any evidence of chest injury, a portable x-ray is ordered. This can be quickly done in your presence. The cause of any severe respiratory distress must be established at once, as mentioned above. Multiple fractured ribs and sternum may lead to paradoxical movements denoting flail chest. If this paradoxical movement is severe, it interferes with respiration and venous return, and may lead to severe distress. This may be further complicated by "wet lung syndrome" which follows severe trauma. Marked improvement may be effected by tracheal aspirations, or bronchoscopy aspiration. If this is not sufficient to bring about and maintain improvement, tracheostomy should be done at once, and not when the patient is in extremis. Many methods have been described to help stabilize a "flail chest," such as using towel-clips and Kirschner wires. In my experience, when a tracheostomy is done, there is usually such a marked and almost complete improvement that these methods are not required. If x-ray shows air or fluid in the plural cavities, this may be removed by needle aspiration or closed drainage, by simply inserting an intercostal tube, and attaching it to underwater drainage.

c. Intra-Abdominal Injuries

Intra-abdominal injuries are often missed because of the lack of physical signs due to shock and pain elsewhere. As the patient is re-evaluated, the signs of peritoneal irritation must be watched for. Any signs of skin abrasions or contusions over the abdominal wall must be observed. Also fractures of lower ribs may cause upper abdominal signs. However, with signs of increasing intra-peritoneal irritation, laparotomy must be considered, to establish if this is any injury of solid or hollow viscus. X-ray of abdomen to establish the presence of free air is an important adjunct.

d. Genito-Urinary Injuries

All patients should be catheterized, and an examination of the urine specimen carried out for

evidence of blood. If the catheter cannot be passed, it usually denotes a torn urethra. In the presence of a severely crushed pelvis, genito-urinary injuries should be anticipated, as ruptured bladder and urethra or injured kidneys. We may proceed from catheterization to digital rectal examination, to intra-venous pyelogram, to urethrogram, to cystogram, to cystoscopy, and perhaps supra-pubic cystostomy and splinting of the urethra.

e. Injuries to the Extremities

Even though the priority grouping is in the third level and not endangering life, we must examine early for any signs of fractures, nerve injuries and the state of the circulation function. Many crippling injuries may be overlooked at this early time. Tests of motor and sensory function are carried out at this time.

The management of acute injuries of large blood vessels requires prompt and vigorous treatment. The initial objectives are the control of hemorrhage. Further objectives are the restoration of circulation and the avoidance of ischemic or gangrenous limbs requiring amputation, and the avoidance of such sequelae as aneurysms and arteriovenous fistulas. The management of damaged large blood vessels has improved in the past few years with ready availability of adequate blood transfusions, blood vessel banks to supply arterial homografts, and surgeons trained in blood vessel surgery.

Summary

Prompt early care is the keynote of success in treating multiple injuries. The variations of trauma are almost endless, and the doctor who is in charge of such a case must have a ready workable plan of action to approach such cases. It is convenient and efficient to approach this problem in a two-fold manner by (1) having a priority grouping for multiple injuries, and (2) have a definite routine of measures to be taken.

It is probably best that one (trained) doctor be in charge of such a patient and appropriate specialists be summoned as required. But nothing can be more disastrous than to have each doctor treating a part, and no one in charge of the whole.

This is a very serious and pressing problem because multiple injuries cause the greatest loss of young, useful, productive lives. You, as the first physician to see these patients, have an unusual responsibility, and you must make your plans to acquit yourself well.

Pathology

The Coombs Test

Bruce Chown, M.D.

There seems to be not a little confusion about the Coombs test. This is a non-technical note about it; Miss Marion Lewis and I shall publish elsewhere a technical note on our modification of it that we have used for several years in the Rh Laboratory and which is more sensitive than most modifications in use.

The test gets its name from Dr. R. R. A. Coombs of the Department of Pathology, University of Cambridge, who, with Drs. A. E. Mourant and R. R. Race of the Lister Institute, in 1945 published a method for the "Detection of weak and 'incomplete' Rh agglutinins." That was its start. Since then the test has found wider and wider use in the detection of antibodies in clinical medicine, bacteriology and serology.

In clinical medicine the test is used to detect the antibodies which are or can be attached to red cells, antibodies which are or may be agents in haemolytic disease. Antibodies are globulins and what the Coombs test detects is human globulin. The Coombs reagent is made by injecting animals—usually rabbits, more recently goats—with human serum or human globulin; in the latter case usually gamma globulin. The animal forms an antibody against the injected serum or globulin; the serum of such an animal is the Coombs reagent, more exactly called anti-human-globulin serum, or A. H. G. for short.

There are two forms of the test, the Direct and the Indirect; the Direct test is used to test the cells of a patient to see if antibodies have been attached to them while they are still in the body; the Indirect test is used to test the patient's serum (or an eluate from his cells) to see if an antibody is present that can attach to red cells not necessarily his own. Let us explain then their use in the elucidation of erythroblastosis and of hemolytic anaemias other than this.

In Rh erythroblastosis, disease is caused by the passage of a red cell agglutinin from the maternal into the fetal circulation where, if the fetal cells carry the Rh antigen, the agglutinin attaches to them and speeds up their destruction. The mother who produces this antibody does not have the Rh antigen in her cells, she is negative for it, Rh-negative, and so the antibody cannot become attached to her cells. Draw a sample of blood from her and separate it into cells and serum. Do a Direct Coombs test on her cells and it will be negative; there is no globulin sticking to them. Incubate her serum with some Rh-positive cells in one tube and some Rh-negative cells in another and then do a Coombs test on them. The Rh-negative cells, like those of the mother, will not

agglutinate. The Rh-positive cells will on the other hand agglutinate, for they are coated with the Rh antibody globulin and the Coombs reagent reacts with globulin. This is a positive indirect Coombs test. The indirect Coombs test then has here detected the presence of an Rh antibody in the mother's serum which was in no way affecting her cells but may affect the cells of her baby.

If, when such a baby is born, you do a direct Coombs test upon its cells it will be positive if the baby's cells carry the Rh antigen, or, as we say, if it is Rh-positive; the test will be negative if the baby's cells do not carry the antigen if they are, in other words, Rh-negative like the mother's. Do you see the difference between the indirect Coombs test on the mother's serum and the direct test on the baby's cells? It is the same antibody that is being detected. In the baby's case the antibody has been circulating in its blood, has there been incubated with the baby's cells; take those cells, wash them and add Coombs reagent and they agglutinate. That's the Direct Coombs. In the mother's case you must first take the antibody and "indirectly" incubate it in a test tube with cells of the same Rh type as the baby's; then you wash them, add the reagent and they agglutinate. That is the indirect Coombs.

If you think upon the matter you will realize that the serum of the baby will probably give an indirect Coombs test. For the baby's cells practically never soak up all the antibody that passes from mother to fetus; some is left circulating in its plasma and can be detected by mixing the serum with normal Rh-positive cells in a test tube, incubating them and then doing a Coombs test on them. Furthermore if you take the baby's cells, wash them, suspend them in a little saline and heat the suspension to 56° C for a few minutes you will find that the antibody has come off the cells and is now in solution in the saline. The latter will then give an indirect Coombs reaction with other normal Rh-positive cells.

All these methods are used in the investigation of acquired haemolytic anaemia, for in some proportion of cases, the anaemia is due to or associated with a red cell agglutinin that reacts with the patient's own cells. The situation here is similar to the situation in the baby with erythroblastosis save that while the antibody in the baby is passed into it from without, the antibody in acquired haemolytic anaemia is made and maintained by the patient himself. The difference is the difference between passive "immunity" in the baby and active "immunity" in the other patient. In the one the persistence of the immune bodies is of short duration, much of them can be washed out by replacement transfusion, new ones will not form; in the other persistence of the immune bodies is

CONNAUGHT

Immune Serum Globulin (Human)

The production of Immune Serum Globulin (Human) by the Connaught Medical Research Laboratories has been made possible by the cooperation of the Canadian Red Cross Society, the Federal Government and the Governments of each of the Provinces.

Immune Serum Globulin is distributed by Provincial Departments of Health and also by the Canadian Red Cross Society through its regional blood depots for therapeutic purposes only. In addition, Immune Serum Globulin (Human) prepared from blood collected privately is available directly from the Laboratories on a regular sale basis.

Some of the conditions for which Immune Serum Globulin is indicated are:

- | | |
|---------------------------------|--|
| Measles (rubeola) | — For prevention and modification. |
| Hypogammaglobulinaemia | — For maintenance of the patient's resistance to |
| and | infection. |
| Agammaglobulinaemia | |
| Infectious Hepatitis | — For close contacts or in the control of outbreaks. |
| Poliomyelitis | — For prevention and modification. |
| German Measles (rubella) | — For prevention during early pregnancy. |

CONNAUGHT MEDICAL RESEARCH LABORATORIES
UNIVERSITY OF TORONTO
TORONTO 4, CANADA

Established in 1914 for Public Service through
Medical Research and the development of
Products for Prevention or Treatment of Disease

Depot for Manitoba

BRATHWAITES LIMITED
429 Portage Avenue at Vaughan Street, Winnipeg

long for as they are used up so are they renewed. Bearing these differences in mind let us review what we found out about Coombs tests in the baby with erythroblastosis and relate these findings to acquired haemolytic anaemia.

First its cells gave a positive Coombs test. So you may expect to get a positive direct Coombs test on the cells of a patient with acquired haemolytic anaemia due to an antibody. I say "you may expect." Whether your expectation is fulfilled or not depends upon the antibody causing the disease, upon the Coombs reagent used and upon the method of its use. Some of these antibodies appear to contain little gamma globulin; a Coombs reagent made by injecting an animal with gamma globulin will not detect such antibodies; some Coombs reagents are too weak and some too strong; some methods of use of Coombs reagent are sensitive, others relatively insensitive. A direct Coombs test in acquired haemolytic anaemia is not as simple as a true-false examination.

Second, the serum of the baby with Rh erythroblastosis gave a positive indirect Coombs reaction with Rh-positive cells but a negative test with Rh-negative cells. The antibody was there all right but in order to detect it you had to use the right test cells. So often I see reports that say "Indirect Coombs test negative." Negative to what? Suppose you suspected typhoid in a patient and asked for an agglutination test would you be satisfied with "Agglutination test negative" if you didn't know with what organisms the serum had been tested? The indirect Coombs test is the same sort of thing. While the Coombs reagent detects globulin as globulin it detects it only if it is stuck on a red cell, and the globulin you are looking for will stick on only those cells that have the right antigens. To take a grossly unreal example. Suppose you had a patient with acquired haemolytic anaemia due to anti-A. If you were to

do an indirect Coombs test between the patient's serum and group O cells they would be bound to be negative, not because there was no antibody in the patient's serum but because there was no antigen on the test cells to which the antibody could adhere.

As a matter of fact the antibodies of acquired haemolytic anaemia usually react with most cells. In some cases the antibody is specific for a given antigen; in others it does not appear to have any specificity, reacting with cells of every antigen make-up. It is probably an Rh antibody in most cases, but an antibody of complex structure and multiple specificities. Such antibodies are the devil to work with; we avoid them.

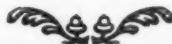
Thirdly, we said that you can elute the Rh-antibody off the cells of a baby with Rh-erythroblastosis and that such an antibody may be used just like serum to do an indirect Coombs test. So too at times you may elute an antibody off the cells of a patient with acquired haemolytic anaemia, proving its presence by an indirect Coombs test with the appropriate cells.

In brief:

Coombs Test

Step 1	Step 2	Step 3	Result
Direct	For Both	For Both	For both
The patient incubates his own cells in his own plasma in his blood stream.	Wash the cells 4 times with saline	Add Coombs reagent	Agglutination = Positive
Indirect.			
You incubate the patient's serum (or red cell eluate) with a panel of cells whose antigen make-up is known.			No agglutination = Negative

If you want this test done supply the testing laboratory with a sample of the patient's whole, clotted blood.





24 steps to a hospital bed

The commonest task, such as climbing a flight of stairs, confronts the angina pectoris patient with a fearful question: "Will I be able to make it?"

Exertion leads to attacks . . . and fear of attacks leads to an increasing restriction of activities. Ultimately, even the attack-free intervals may lose all semblance of normal living.

Remove the fear factor. In 4 out of 5 patients, routine prophylaxis utilizing Peritrate reduces the incidence and severity of anginal attacks, improves abnormal EKG tracings and increases exercise tolerance.

A new sense of freedom restores the "cardiac cripple" to a sense of usefulness and participation, although he should not now indulge in previously prohibited strenuous exercise.

Peritrate prophylaxis is simple: 10 or 20 mg. *before meals* and at bedtime. The specific needs of most patients are met with Peritrate's four convenient dosage forms: Peritrate 10 mg. and 20 mg. tablets; Peritrate with Phenobarbital (10 mg. with phenobarbital 15 mg.) where sedation is also required.

NEW

Peritrate

Sustained Action

Just 2 tablets a day are usually adequate to provide round-the-clock protection, one before breakfast, the other before the evening meal.

Peritrate

(brand of pentaerythritol tetranitrate)

WARNER-CHILCOTT

Laboratories CO., LIMITED, TORONTO, CANADA

The President's Page

Since my last message, most important legislation has been passed in Manitoba which will affect every practicing doctor one way or another. Many of us are gravely concerned about the impact of the Hospital Services Plan on our private practice since it has been stated that the onus of success of the plan is on us because we will control admissions and discharges to and from hospitals.

How can this be carried out without dissatisfaction from our patients when there is no limitation to hospital stay and no deterrent to admission, imposed by the government? Many of you say the doctors are the goats because there will be a shortage of hospital beds and you may have trouble getting beds for emergency cases.

I believe this is a challenge which we as practicing doctors have to accept and act on quickly, and wisely. Surely we do not want non-professional groups to take the prerogative from us? Therefore the medical staff of each and every hospital will have to form an admission and discharge committee. Arrangements will have to be made to set aside so many emergency beds each day and emergency admissions will have to be screened by this committee, as is now done in some hospitals. If there are abuses, these should be dealt with by the Hospital Medical Staff. They could always seek aid from the Minister of Health if necessary.

It is not likely that there are enough beds available, particularly in Winnipeg, to meet the demand for hospitalization. Who will be responsible for supplying more hospital beds?

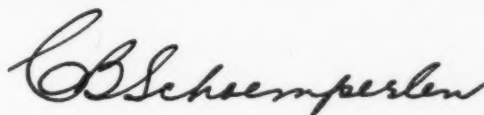
With regard to discharges, it is possible that a system could be evolved where the attending doctor would signify his patient was ready for discharge medically. It would then be the responsibility of the hospital administrator, perhaps with the aid of the Commissioner, to see that a suitable place was found for the patient if there were domestic difficulties, or extenuating circumstances at home. In other words, the doctor would be freed from the necessity of arranging the mechanical details of emptying the bed for another patient.

The Hon. Mr. Bend has explained to us his reasons for dropping a deterrent charge. Neither neighboring province has one. The Federal Government has said there could be no exclusions and that even indigents would have to be included and that this money would be deducted from the Federal grant whether or not it was collected from the patients. Finally, the Union of Municipalities stated emphatically they would oppose any such charge.

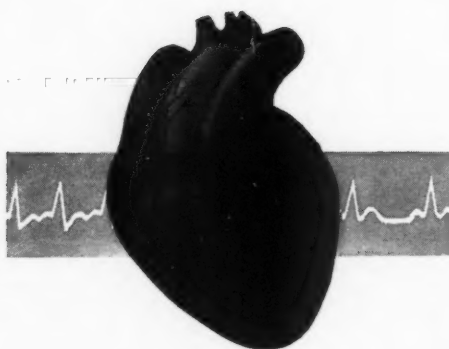
Therefore I think it only just that we give the plan a fair trial. That we be objective in our thinking; constructive in our criticisms, and display leadership in our hospitals. If we then fail, we will have to ask the government to reconsider and enact proper legislation to control admissions and discharges. It would probably be unwise to have too many restrictions and limitations at the onset.

A letter has been written to the Minister on your behalf stating the concern of the Profession about the above matters as well as about maintaining sufficient teaching beds.

Let every doctor co-operate and consider his colleagues as well as the welfare of his patients.



a valuable new adjuvant in heart disease*



* SERPASIL® calms the "Nervous Heart"

1. Reduces the heart rate 2. Prolongs the diastole
3. Damps down reflex excitability of the circulatory system 4. Economizes cardiac work 5. Lowers high pulmonary blood pressure 6. Relaxes and tranquillizes the patient.

Note: Serpasil does not increase the force of the heart beat, and is therefore not a substitute for the cardiac glycosides when a positive inotropic action is needed.

® reg. trade-mark

C I B A

Editorial

S. Vaisrub, M.D., M.R.C.P. (Lond.), F.R.C.P. (C.), F.A.C.P., Editor

Time and the Doctor

*"The noise that time makes in passing by
Is very light, but even you can hear it."*

MERRILL MOORE — *"The Noise That Time Makes"*

The timeliness of editorial comment on Time may be questioned. Space, not time, holds the centre of the stage. Bewitched by the spectacle of swirling satellites the world has no eyes for the dancing hours. Yet time and space are inseparable. To the physicist-mathematician they are but two components of one dimension — space-time. They are also linked closely in philosophical thought, both sharing the mystery of endlessness — the infinity of space and the eternity of time. Even the practical mind which sharply separates Time of measurable duration — the realm of the historian, from Space of measurable distances — the domain of the geographer, may find the separation on occasions somewhat artificial. The dividing line becomes fuzzy in such expressions as the "space of time" and the "length of hours."

It is, thus, permissible in this age of "outer space" to ponder about "inner time." Yes! Time too has its inner and outer subdivisions. Outer time is objective time, world time, clock time. Inner time is subjective time, the time of the individual, where minutes may drag on like hours and days whirl by with supersonic speed. Outer time is old Father Time, stern and inexorably invariable. Inner time is whimsical and capriciously variable. The sweet young thing, having the "time of her life" at a party and the hardened criminal "doing time" in a penal institution have inner time vastly different in their subjective duration. Outer time treats old and young alike. Inner time is partial to the young, filling their days with meaningful hours, while to the old it offers only empty years that speed by with indecent haste. Outer time is measurable time — the only time recognized by science. Inner time is or, until recently, was solely the concern of the individual.

Recently, however, inner time had also become the concern of the scientist. Linn F. Cooper and Milton H. Erickson ("Time Distortion in Hypnosis," Williams and Wilkins, Baltimore 1954) have conducted some fascinating experiments designed to study subjective time in the hypnotic state. By suggestion to hypnotized subjects they have succeeded in making them realize in seconds events which

ordinarily would take hours by clock time, without any apparent speed up in the subjective evaluation of the duration of these events—a situation similar to that which often occurs in dreams. They have even attempted to facilitate learning by practice during artificially induced trance states, which, although lasting but a few seconds, appeared to the subject to last hours.

How does time concern the doctor? The fact that experiments on time distortion in hypnosis were conducted by the doctors carries little significance, for they could have just as well been carried out by laymen. Moreover, subjective time is of limited interest to the physician. The time that he has to contend with is clock time. Office appointments, house calls, hospital rounds, telephone inquiries, medical "reading, 'riting and 'rithmetic" — all are consumers of objective time. No amount of tinkering with inner time is going to help the doctor in his race with the clock.

The doctor, of course, is not alone in his race with the clock. Every busy man, no matter what his calling, is a participant. Yet there are subtle differences. There are certain special demands made upon the doctor's time by dint of the very nature of his work. The demand of the patient to be heard is one of them. Numerous papers have been written on how to listen to patients. The demand of the patient to be spoken to is another. Books have been written on the art of talking to patients. No longer content with a pat on the back and a stock prescription, the modern patient insists on long explanations, detailed advice and constant reassurance. Another even more exacting demand on the doctor's time is the demand on his availability. More apprehensive and more dependent on his physician than ever in history, the patient expects him to be available at all times. Forever "on call," the doctor is the Slave of Time.

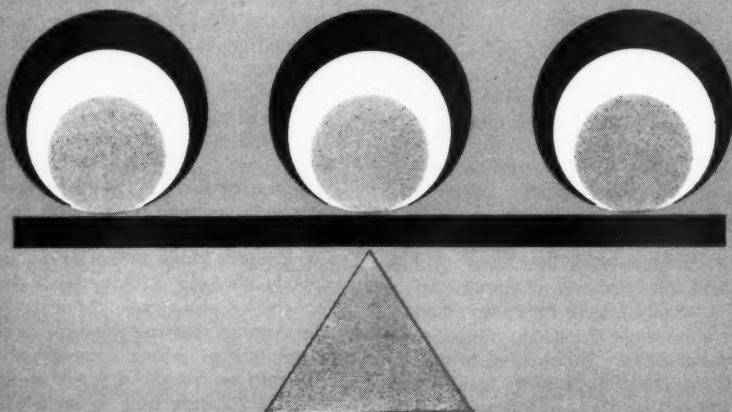
It is no accident, and small wonder, that Merrill Moore, the poet who wrote "The Noise that Time Makes" was also a practising physician. Whose ears, indeed, are better attuned to the passing time than those of the practitioners of Medicine? What may seem strange, however, is that Merrill should describe the noise made by Time as "Light." To the busy doctor, "the noise that Time makes in passing by" is not light at all. It is a mighty roar, a deafening din, or at its quietest — the noise of the cracking whip.

TRIPAL

(triple precipitate)

FAST, PROLONGED RELIEF FROM GASTRIC DISTRESS

The balanced antacid
combining a powerful buffering
effect with a neutralizing
action. Neither laxative
nor constipating.



Each 15 grain TRIPAL tablet contains:

Magnesium Carbonate

Calcium Carbonate

Dried Aluminium Hydroxide Gel.

Samples and Literature on request



C. L. BENCARD

*P.O. Box 99
Weston, Ontario*

Book Reviews

Century of the Surgeon. Jurgen Thorwald, McClelland and Stewart Limited, Toronto. \$6.50. 432 Pages and Index and Bibliography and 66 Illustrations.

Every medical student, whether graduate or undergraduate would be well advised to read this short exposition of surgical development of the last half of the 19th century. History has always been considered by the reviewer as a droll dissertation of facts. However, as presented by the author the stories become alive, and hold one as spell-bound and excited as would any fine novel of suspense. Although many facets are left untouched in this short account, those that are presented have been done so vividly and excellently. The scientific accuracy is based on over 500 references, all of which are listed in the bibliography.

The author traces the development of modern surgery through the eyes of a Dr. Hartmann who entered Harvard Medical School in 1843. Dr. Hartmann provides the excellent continuity of 50 years of progress described, for although a surgeon, he never really practiced but travelled as an observer and historian.

Although surgery had been practiced for many centuries, little progress had been made until the development of anesthesia and antiseptics. Little wonder it is then that much space is devoted to recounting in fairly full detail the early development of anesthesia. A complete account of the contributions of Horace Wells, the true founder of anesthesia, who, because of his shy retiring nature, did not press his claims, is given. We learn too of the opportunist William G. Morton, mercenary, a bit of a charlatan who shouted louder than the rest and was proclaimed the innovator of anesthesia. Simpson's contributions to labor with chloroform followed shortly. Albeit anesthesia was the base upon which surgery could advance, a little too much space is devoted to it.

The author's enthusiasm for anesthesia and its impact on surgery received a jarring jolt when he visited Scutari during the Crimean War and realized that a greater scourge, infection, had become more rampant since painless surgery was being performed. Many deaths and much distress resulted.

"Dirty Hands" is the extremely apt title to the chapter devoted to Semmelweis who in 1847 described the cause, the spread, the prevention of puerperal sepsis, a disease which took hundreds of lives every year in all hospital obstetrical wards manned by doctors. However, Semmelweis' plea went unheeded, and he became insane and, ironically died of the disease he conquered—septicemia.

Lister's applications of antiseptics are next reviewed by our narrator. Also discussed is the

enthusiasm with which his theories were accepted on the Continent, and the belated success in Britain. Most surprising, was Simpson's attitude toward this concept especially in view of the difficulties he himself surmounted when he introduced chloroform. Not until Koch proved that bacteria were the causative factors (Pasteur's animalcules) was the surgical world convinced. Soon the findings were slowly accepted and the knowledge was applied to Surgery in that steam sterilization and rubber gloves became common usage.

That all this is in the not too distant past is evidenced by the reviewer remembering being clinic"ed" 10 years ago in Edinburgh upon a little old lady who was presented only because she had been operated upon as a child by Lister himself.

As soon as anesthesia and antiseptic surgery were established it did not take long for the various techniques in general surgery to be developed. Two are recounted — that of gastric surgery and that of appendectomy. The story ends with a successful suturing of a heart wound in 1896.

One is again impressed with the many obstacles to advancement that have been erected in the paths of medical geniuses over the years.

M. J. L.

♦
Textbook of Virology. Rhodes, A. J., van Rooyen, C. E. Williams and Wilkins. 3rd Edition. 642 pp. Price \$10.00.

This book has been fairly completely revised due to numerous advances in the field and has been increased from 561 pages to 642 pages. The format is as in the previous editions. Some of the changes are as follows:

The chapter on technical methods and apparatus is extended to include a discussion of tissue culture. Cat scratch disease and epidemic fever of Korea have been added to the chapter on methods of spread; these diseases are really of unknown etiology but are probably due to virus. The chapter on laboratory diagnosis is changed considerably since diagnostic methods have become much more practical, and the results obtained from these methods are now of value in diagnosis of the particular patient in question; laboratory methods are emphasized in each section throughout the book. The chapter on respiratory diseases has been enlarged to include a description of adenovirus infections, acute laryngo tracheobronchitis infections and generalized cytomegalic inclusion disease. Unfortunately the book went to press before the Asiatic influenza epidemic was well under way and there is not a good description of the epidemic. The chapter on central nervous system infections has been rearranged. The chapter on Poliovirus infections has been extended



—In the treatment of Diarrhoea

Borden's C.M.P. Brand Protein Milk has been clinically proven in the treatment of fermentative and summer diarrhoea, premature infant feeding and coeliac disease.

It is essentially a soured milk product with the whey removed and extra curd added. It produces a high protein, acidified milk with lowered fat and carbohydrate content.

Powdered by spray process, the curd is finely divided (a considerable benefit to delicate gastrointestinal systems) and the lactic acid organisms are preserved in living form.

When reliquefied, Borden's C.M.P. Brand Protein Milk has all the valuable properties of *Finkelstein's Formula*.



Borden's C.M.P. Brand Protein Milk is one of many fine formula foods developed by the Borden Company in co-operation with leading pediatricians. Other Borden formula foods include, Mull-Soy, Dryco, Lactic Acid Milk, Starlac and Nutrilac. For more detailed information, write . . .

THE BORDEN COMPANY, LIMITED

Formula Foods Dept., Spadina Crescent
Toronto, Ontario

particularly on vaccine and antibody studies. The chapter on Coxsackie viruses has also been extended and rearranged.

In summary the book can be highly recommended to undergraduates and post graduate students as well as to clinicians, as a concise, up-to-date, descriptive textbook of Virology which emphasizes many practical points in the diagnosis and handling of patients.

J. C. W.

Advance Notice of the Visit of

Professor T. N. A. Jeffcoate
Professor of Obstetrics and Gynaecology
University of Liverpool

June 9th, 10th and 11th

Prof. Jeffcoate is the Simms-Black Travelling Professor of the Royal College of Obstetricians and Gynaecologists. He is very eminent in the field of Obstetrics and Gynaecology and is particularly well known for his work on stress incontinence and the pathological aspects of uterine function in labour.

Meetings will be arranged for the profession to have the opportunity of hearing Professor Jeffcoate. The dates and the subjects of these will be announced later.

Victorian Order of Nurses

Today, with the rising cost of care of the sick, it is more important than ever for physicians to utilize visiting nursing service. Better understanding of the visiting nurse's contribution to medical practice is the first step in its more effective use.

The service is organized and administered by a group of public-spirited citizens—the local Board of Management. A Medical Advisory Committee guides the agency in its professional services. This guidance includes preparation of standing orders

to be used when a nurse is called to give emergency care to a patient who is not yet under the care of a physician. Only one such visit may be made, as nursing care cannot be continued to a patient who does not have medical supervision. Nurses are instructed to keep in close communication with each patient's attending physician.

Contrary to the belief of many lay and professional persons, visiting nursing is available to people of all economic levels, (just as hospital care is available to all) and is not limited to service to the indigent.

Cost of the service is carefully computed each year. In Winnipeg the present cost of a nursing visit is \$2.50. Those who can pay for their care are expected to do so. Reduction or waiver of the fee is arranged when necessary by the nurse who cares for the patient. She does this after discussion with the patient or family. Last year the full fee was received for 18% of the visits made by the nurse. Part-pay (which for some patients is as little as 25 cents) was received for 41%, and 41% were free visits.

Care provided on a free or part-pay basis is made possible by various grants, the largest of which is from the Community Chest.

The Victorian Order has an adequate staff (all registered nurses) to care for your patients in their homes. Medical, post-operative, convalescent and maternity patients can be cared for.

Telephone WH 2-8529

Obituary

Dr. John A. Peters

Dr. John A. Peters, 38, died suddenly in Concordia Hospital, Winnipeg, on April 16. He came from Russia to Canada at ten years of age, graduated in medicine from the University of Manitoba 1951 and engaged in general practice. He is survived by his wife, two sons and a daughter.

Accuracy . . .

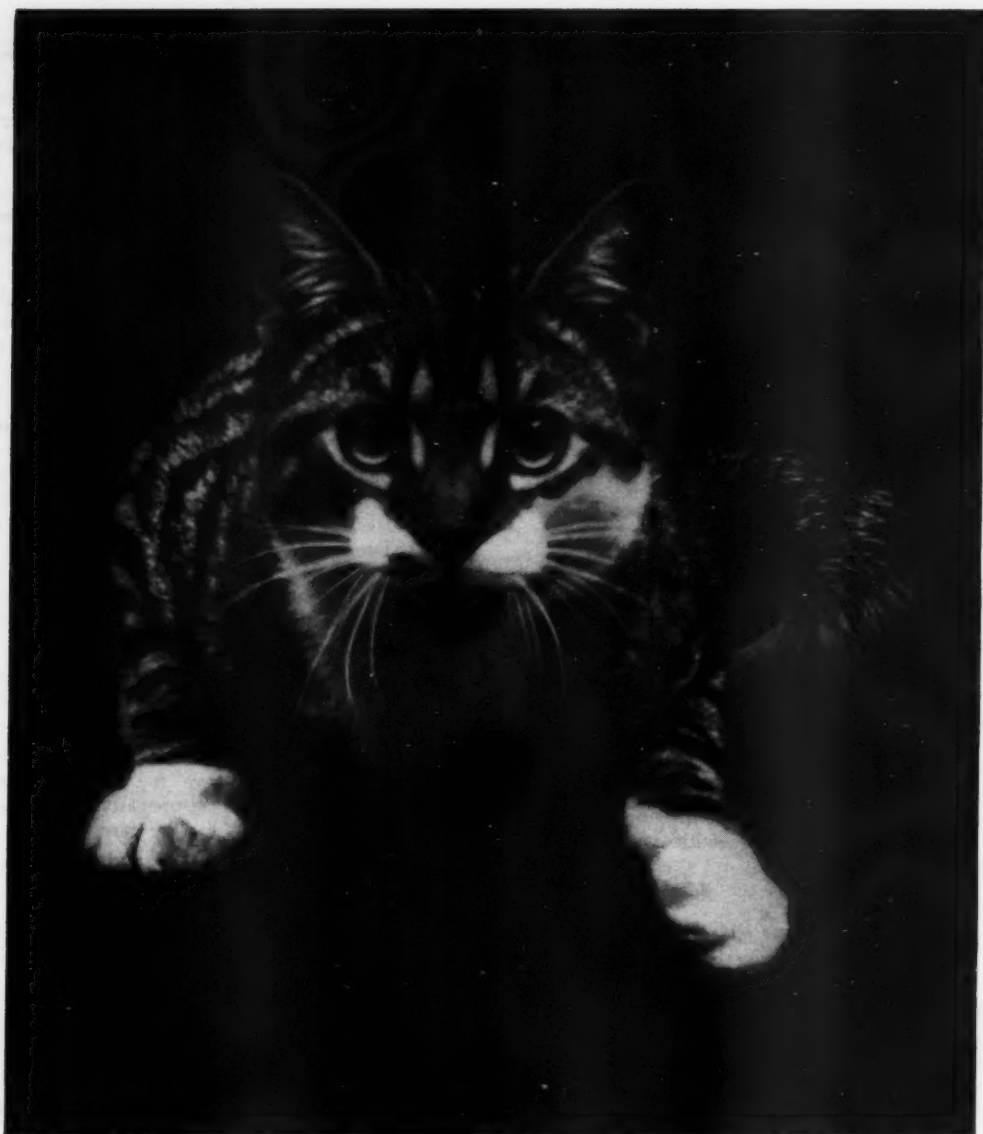
The technique of craftsmanship as we apply it
to your prescription, is a guarantee of accuracy.

Mallon Optical

405 Graham Ave., Winnipeg 1

Phone WH 2-7118





TAKE A NEW LOOK AT ALLERGENS* TAKE A LOOK AT NEW D̄IMETANE

There is no antihistamine better than DIMETANE for allergic protection. DIMETANE gives you good reasons to re-examine the antihistamine you are now using: unexcelled potency, unsurpassed therapeutic index and relative safety...minimum drowsiness or other side effects. Has been effective where other antihistamines have failed. DIMETANE Extentabs® (12 mg.) protect for 10-12 hours on one tablet. Also available: Tablets (4 mg.), Elixir (2 mg. per 5 cc.).

A. H. ROBINS CO. OF CANADA, LTD., MONTREAL
Ethical Pharmaceuticals of Merit Since 1878

*Typical Allergens: Animal Hair and Dander • Pollen • Molds • Bacteria and Viruses • Feathers • Insect Scales • Vegetable Fibers and Seeds • Plant Juices • House Dust • Drugs and Chemicals • Minerals and Metals.



(FARABROMOLAMINE HALCATE)
D̄imetane

Association Page

Reported by M. T. Macfarland, M.D.

Chartered Plane to Edinburgh For Manitoba Medical Association Members, Fare \$400.

The combined meeting of The Canadian Medical Association and the British Medical Association is being held in Edinburgh, Scotland, from July 18th to 25th, 1959. Several air lines were approached for a price on a charter flight from Winnipeg with a re-fueling stop in Gander. The best offer was from Canadian Pacific Airlines in a new Super DC-6B aircraft, accommodation 65 passengers. The C.P.A. state this is one of the finest commercial airliners in the world today. Flying time would be about 13 hours from Winnipeg. The price quoted for 1958 (which might be subject to change in future) is \$396.00 a seat. An extra \$4.00 will buy trip insurance for \$50,000 for trans-Atlantic flight.

It is anticipated the flight will leave Winnipeg for Edinburgh on July 17th and return from London to Winnipeg on August 16th.

Those wishing to reserve a place on the plane are requested to send a \$50.00 deposit for each seat desired, to the office of the Manitoba Medical Association, 601 Medical Arts Building, Winnipeg 1, Manitoba.

Living accommodation in Edinburgh must be reserved through University Tours Limited, 2 College Street, Toronto 2, Ontario.

Travelling to Edinburgh? What About Insurance?

Generally, any doctor about to take the special trip which has been planned to the B.M.A. - C.M.A. meeting in Edinburgh in 1959, would be well advised to look over his insurance policies to make sure that he does not have some old contract where a trip by a non-scheduled airline is not covered. This applied particularly to the accident benefit (double indemnity) which in the older contract was only granted when the flight was being taken on a regularly scheduled trip.

Both the North American Life and Casualty Company and the Travelers assure that the group contracts the doctors have with both of these companies covers the proposed trip.

If additional air travel insurance is required, it may be purchased from the Mutual Benefit Health and Accident Assurance Company, whose head office is in Toronto. The rates charged for travel are double domestic rates, but are still very reasonable. One dollar purchases \$12,500 worth of insurance, the maximum that one individual can buy is \$62,500, at a cost of five dollars. This, of course, covers the round trip.

Disability Allowances

The following letter dated February 24th, 1958 has been addressed to members of the profession from the office of the Provincial Coordinator of Rehabilitation Services over the signature of Dr. J. D. Adamson, Disability Assessment Panel:

"There has naturally been a wide variety of opinion among medical men with regard to the type and degree of disability that is required to qualify an applicant under the Disabled Persons Act. When the Act first came into force, there was a common impression that the allowance could be granted to those who were, for medical reasons, permanently unemployable. The Act never carried any such implications and indeed, unemployability was not mentioned. The original Act and Regulations made the allowance, in effect, a helplessness allowance; it was necessary to show that some morbid condition rendered the applicant incapable of performing some of the functions of self-care. (e.g. dressing, feeding and attending to personal hygiene).

"In the past year the Regulations have been amended with the purpose of broadening the scope of the Act. Under the new Regulations a person shall be deemed to be totally and permanently disabled when suffering from a major physiological, anatomical, or psychological impairment verified by objective medical findings which is likely to continue indefinitely without substantial improvement and, as a result thereof, such person is severely limited in activities pertaining to normal living.

"The problem for the medical panel therefore resolves itself into an estimation of the functional capacity of the disabled person in his or her environment. The decision of the panel is based on evidence supplied by a social report and a medical report. The social report is completed by a provincial social investigator who attempts to give a picture of the remaining functional capacities of the applicant.

"Should you be confronted with the Disability Allowance medical report, your co-operation is requested in providing a clear description of the physical or psychological signs and symptoms that are producing a major impairment. It is not necessary to follow the form in every detail and negative findings may usually be omitted: e.g. it is of no importance in the case of a short, obese, psychotic woman to note "an apex beat is not palpable."

"It is admittedly difficult to come to a general agreement on the precise meaning of "normal living" and "normal environment." One can only try to visualize whether or not the applicant could (if

ENOVID*

BRAND OF NORETHYNODREL WITH ETHYNYLESTRADIOL 3-METHYL ETHER

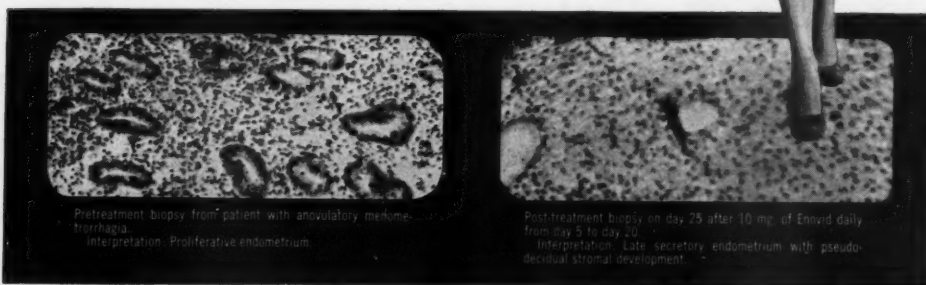
Regulates menstrual disorders through reliable endometropic control

Enovid is Searle's new, orally effective agent designed to provide specific control of menstrual disorders.

Enovid contains norethynodrel, a new synthetic steroid with strong progestational and lesser estrogenic activity. The estrogenic effect, enhanced by the addition of ethynylestradiol 3-methyl ether, prevents spotting or breakthrough bleeding in most patients in whom it would otherwise occur.

Like the normal endocrine action of the corpus luteum, Enovid maintains the integrity of the endometrium during administration of the drug. Moreover, as occurs on withdrawal of the natural hormones, the withdrawal of Enovid results in the flow characteristics of menstruation. Also, as do the natural hormones, Enovid controls the gonadotropic functions of the anterior pituitary gland.

This specific control of the menstrual cycle permits effective treatment of both excessive and inadequate endometrial activity and provides the physician with a dependable agent for treating such disorders as amenorrhea, dysmenorrhea, menorrhagia, metrorrhagia and premenstrual tension.



Pretreatment biopsy from patient with anovulatory menorrhagia.
Interpretation: Proliferative endometrium.

Post-treatment biopsy on day 25 after 10 mg. of Enovid daily from day 5 to day 25.
Interpretation: Late secretory endometrium with pseudo-decidual stromal development.

Biopsy photomicrographs courtesy of Anna L. Southam, M.D., New York, N.Y.

INDICATIONS AND DOSAGE GUIDE FOR ENOVID		
DISORDER	FIRST CYCLE	SECOND AND THIRD CONSECUTIVE CYCLES
Menorrhagia	One or two 10-mg. tablets daily to day 25 of the cycle.	One 10-mg. tablet daily from day 5 to day 25*
Metrorrhagia	One or two 10-mg. tablets daily to day 25 (or for 10 days to establish cycle)	same as above
Amenorrhea (primary or secondary)	One 10-mg. tablet daily for 20 days to establish cycle	same as above
Oligomenorrhea	One 10-mg. tablet daily from day 5 to day 25*	same as above
Premenstrual Tension	One 10-mg. tablet daily from day 5 to day 25*	same as above
Dysmenorrhea	One 10-mg. tablet daily from day 5 to day 25	One 10-mg. tablet daily from day 5 to day 25
Inadequate Luteal Phase	One 10-mg. tablet daily from day 15 to day 25	One 10-mg. tablet daily from day 15 to day 25

*The administration of Enovid prior to day 15 may interfere with ovulation; if anovulatory cycles are not desired, one 10-mg. tablet of Enovid should be administered daily from day 15 to day 25.

SPECIAL NOTES: (1) If nausea is encountered, the daily dose may be cut in half or given in divided doses for three days and then returned to the regular dose. (2) Intermenstrual spotting is usually evidence of inadequate dosage. This type of bleeding is usually controlled by increasing the dosage one 10-mg. tablet daily. (3) Fol-

lowing discontinuance of treatment, the intermenstrual interval of the first untreated cycle is commonly prolonged for approximately one week.

FORMULA: Each 10-mg. tablet of Enovid (available as uncoated, scored, coral tablets) contains 9.85 mg. of norethynodrel, a new synthetic steroid, with 0.15 mg. of ethynylestradiol 3-methyl ether.

*Trademark of G. D. Searle & Co.

G. D. Searle & Co., Chicago 80, Illinois

Research in the Service of Medicine

G. D. SEARLE & CO. OF CANADA LTD., 247 QUEEN ST., E., BRAMPTON, ONT.

supplied with the economic means to meet budgetary requirements) live from day-to-day without regular assistance or supervision.

"It is in the solution of this difficult and rather vague problem that we solicit your help. If you would like further information pertaining to the Disability Allowance program, please do not hesitate to write to me."



Excerpt from Report of Committee on Economics to Executive, March 19th, 1958

(e) T.C.M.P. — National Underwriting Agency.

The establishment of a national underwriting agency as a new company to do business with the doctor-sponsored prepaid schemes and public bodies, has been suggested by Dr. M. R. MacCharles to the T.C.M.P. Commission and the C.M.A. Executive. This involves the incorporation of a company financed by the profession and the prepaid plans. It would seek to obtain contracts for a variety of medical services for national groups and others.

These contracts or portions of contracts would be distributed among the prepaid plans as they were capable of handling them. In no way would competition with the Plans be considered. If a Plan was not able to handle a contract in its area, the national agency would provide the service. In this way the widest possible geographical area would be covered. Also a variety of services which individual schemes did wish to handle, would be made available to those desiring them. The sponsors of the plan feel that in this way the prepaid plans can compete with the union of commercial carriers whose ability to meet a variety of demands for medical service depends upon the versatility of their insurance methods. On the other hand the prepaid schemes tend to be limited in their capacity to meet these varying requirements. Because of this the larger or national groups may be lost to them. If this is so, not only is there a chance for a more profitable margin of business being lost but the profession loses its initiative in controlling one of its traditional roles in the care and welfare of the people. "The modern mechanism of payment for our services must not be allowed to rob us of this obligation and responsibility."

The Executive of C.M.A. has not had the opportunity to study this matter but referred it to the divisional Economics Committees. Our local committee sat with Dr. MacCharles and after his explanation of the situation, approved in principle of the establishment of such an agency. However at the Economics Committee meeting in Toronto last week, the other divisions were not prepared to make recommendations in this matter.

In this regard it may be proper to refer to a recent address by Mr. Seed of the British Pacific Insurance Company. It will be recalled this is the company which suggested that the doctors in Manitoba accept the fee schedule of the company for medical services performed for their policyholders. This schedule was equal to our M.M.S. schedule after pro-rating. We advised Mr. Seed this was contrary to our principles and unacceptable. (See Manitoba Medical Review, Vol. 36, No. 3, March, 1956). In his recent remarks Mr. Seed indicated some commercial carriers, including Mr. Seed's Company, seek to sell their contracts to the public on the grounds that the doctors will accept their fee schedules as full payment for services rather than as part of the fee set out in the Minimum Schedule of Fees of the M.M.A. and other divisions.

It is reasonable for doctors who treat patients who are not covered by the Workmen's Compensation Board or M.M.S., to base their charges on the M.M.A. schedule established by the profession, and vary them as the circumstances indicate. On the other hand fee schedules of the commercial carriers are generally meant to be for indemnity or partial coverage, that is, they are set to give the patient protection against the greater part of his medical or hospital expenses. As they do not usually reach what we call, in all moderation, full coverage, doctors may charge the patient what he feels he has earned. If doctors accept these reduced schedules as full payment for any reason except some humanitarian one, and because they are indifferent to or ignorant of, their privileges and rights, the result is a decline in their income and in the income of their fellows. There can be no doubt that acceptance of reduced or inadequate fee schedules will drive out reasonable and adequate schedules to a point where only poor returns will be the lot of the doctor. That members of the profession are so indifferent to their rights is difficult to accept in the face of all the criticism which continues to be directed towards the fee schedule and pro-rating effects of their own M.M.S. Therefore it is suggested that the attention of the profession be continually directed towards this situation. Only by constant awareness of this tendency by some commercial carriers to obtain acceptance of their schedules for full coverage can doctors protect their own interests and independence.

Comment

Information on Insurance

We have been informed that a Vancouver insurance company is selling a service type of contract in Manitoba, in which it is expected that the doctor will accept the fee allowed by the company, in full payment of his account. The policy holder is provided with a numbered card much like that issued by the M.M.S. and the patient is supposed to show this card to the doctor so that

Effective Penetration of the Intact Skin

Vascutonex Cream

A TOPICAL SALICYLATE THERAPY WHICH
INCORPORATES TWO ESSENTIAL FACTORS

Effective skin
penetration

Effective absorption
into lipid tissue

The first factor is provided by diethylamine salicylate which Malpern (1948) has shown to have an absorption rate 300-500 times greater than methyl salicylate.

The second factor is Glycol salicylate which has been shown to have a remarkable affinity for lipid tissue ensuring a deposit of salicylate ions, the slow release of which prolongs the action of the quicker acting diethylamine salicylate.

The local effect of these salicylates is to begin their therapeutic action at the site of the lesion. By plain intunction, about 80% of the salicylate content of the cream is taken up into the body and about 65% is excreted in the urine.

VASCUTONEX is non-staining, odourless, and contains no counter-irritants—its therapeutic action depending entirely on the effective absorption and anti-rheumatic action of the salicylates in the formula.

INDICATIONS: Fibrositis and pain associated with muscular and articular rheumatism and all soft tissue pain.

Formula

Glycol Salicylate . . . 10% w/w

Diethylamine Salicylate . . . 10% w/w

in a water miscible base.

Pack: 30 gramme tube.

CALMIC LIMITED 220 Bay Street, Toronto, Crewe and London,
England • Johannesburg, South Africa • Sydney, Australia

he can take note of the contract number and bill the Head Office of the company directly. We understand that the fees paid, closely approximate the allowance granted under M.M.S.

This matter was fully discussed at the meeting of your Executive, and the following course of action is strongly recommended. Always remember that your contract is with your patient; you should assess him a fee commensurate with your services and reasonable for the economic group to which he belongs. This statement of account should be submitted in the usual way. Once you have established the extent of his liability to you, it is reasonable for him to expect that you will do everything possible to assist him to obtain such benefits as may be available to him. This is a

much different matter than submitting a statement of account to an insurance company to be settled on their terms.

In the case of the particular company under discussion, you should complete the form and send it with a statement of your account to your patient, who may pass it on to the company if he so desires.

At the present time, the profession has fee agreements with only three groups; the Manitoba Medical Services, the Department of Veterans' Affairs, and the Workmen's Compensation Board. Unless your patient is eligible for treatment under one of these, he or she should be sent a statement of account. This principle is important if you wish to retain the right to place your own valuation on the services you have rendered.

a further advance in anti-fungal therapy . . .



In low concentration Teoquil possesses a high degree of activity against mycelial fungi and certain activity against yeast-like forms.

Teoquil's anti-pruritic effect is invaluable where intense itching causes scratching followed in many cases by secondary infection.

Teoquil is indicated in the treatment of a variety of fungal infections including *epidermophytosis*, *microsporum* and *trichophyton* infections.

Long standing cases that have proved resistant to other forms of treatment given over many years, have often responded very quickly to Teoquil.

Teoquil is available in two forms :
Teoquil Gel in bottles of 28 cc with brush for application.
Teoquil Dusting Powder in polythene "puffer" bottles of 25 G.
Write for complete literature.

TEOQUIL

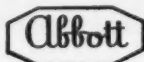


ALLEN & HANBURY'S
COMPANY LIMITED
Toronto 15, Ontario London, England

It's well past midnight. Again.
And still her night keeps
ticking away: no sleep . . . no
rest . . . no sleep . . . no rest.
If she were your patient, you'd
relieve her insomnia with—

short-acting **NEMBUTAL**

A dose of only $\frac{3}{4}$ to 1-gr.
is enough to erase anxiety,
worries, tension. And to induce
drowsiness, followed by
refreshing sleep. With short-
acting NEMBUTAL, there is
little drug to be inactivated,
short duration of effect, wide
margin of safety and little
tendency toward morning-after
hangover. Which is why:
in equal doses, no other
barbiturate combines quicker,
briefer, more profound effect.



ABBOTT LABORATORIES LIMITED
MONTREAL



® (PENTOBARBITAL, ABBOTT)

Social News

Reported by K. Borthwick-Lealia, M.D.

At last, a formal, and in public criticism of ye column, which gives me such a good chance to once more resign from my post as social editor. Apparently too many of our members have too many babies, and become boring to some of the clan, probably jealous — eh what? Unfortunately I do find that if I miss welcoming said babies I get all what for — you know what I mean — so that's that. Shall I omit the weddings also? Necessary to make the babies legal. Resignation on record to the Editor.

◆
Congratulations to all the following graduates:

Dr. Irwin J. Schatz has been appointed a fellow in Medicine in the Mayo Foundation at Rochester, associated with the Graduate School of the University of Minnesota.

◆
Dr. Gerald Holman is the recipient of a grant of \$30,000 from the John and Mary R. Markle Foundation, to assist him over a period of five years in his work in paediatric endocrinology. Dr. Holman spent one year in post graduate work at our Children's Hospital, and four years in Baltimore, at Johns Hopkins. He has accepted an appointment recently, as assistant professor of Paediatrics at the University of Saskatchewan where he will continue his research work.

◆
Our own research men have also been in the limelight — but unfortunately have not clicked with moneys in the \$30,000 class. Could we use some of that? Dr. Cameron Wallace, at the Medical College is doing yeoman work in Cancer Research, hours, days, years of working with rats and mice, and at present really going places in the field of metastases. More power to him.

Then we have the Cancer Research Team — photogenic too — of Dr. J. Doupe, Director; Drs. M. C. Blanchaer, Lyonel Israels, Harold Blondal, J. H. Linford and John Maclean, who in their own separate departments, with intercom cooperation from all, are working, working, working to try and beat those rampaging cancer cells. Some time I'll break down and tell you Blondal's theory as to my survival.

◆
Dr. and Mrs. Harold Waldon have again been honored by the many friends and grateful patients on Harold's retirement. That six months vacation sounds wonderful. I'm sure all of the profession wish you all the best for years to come, Harold.

◆
Dr. Cecil Melville Couves, '45 has been appointed asst. professor of surgery at the University of Saskatchewan, effective July 1, 1958.

◆
Dr. Charles F. Code, B.Sc., M.D., '34, co-chairman of the Section of Physiology at the Mayo Clinic and professor of Physiology in the Mayo Foundation, Graduate School University of Minnesota, has been elected to the Senate of that University. Dr. Code will represent the faculty members.

Dr. T. E. Beighton has been chosen as president of the medical staff of Victoria General Hospital, Winnipeg. Other officers are Past-president Dr. V. L. Rosenfield; Vice-presidents, Drs. S. Zeavin and M. Marmer; Secretary-treasurer, Dr. E. K. Vann; Executive members: Drs. C. S. Herschfield, P. K. Tisdale, L. Reznowski, B. Dyma, P. Kasian and A. P. Guttman.

◆
Congratulations are also in order for the members of the General Practitioners and their ladies, for the highly successful, well-organized convention of the College of General Practice of Canada, held earlier in April at the Royal Alexandra Hotel. Interesting speakers and discussion, excellent scientific demonstrations and exhibits and a wonderful social occasion. It was fun to see Dr. Blake Watson again, for "old time" reminiscences.

◆
Dr. and Mrs. Robert Macpherson announce the engagement of Margot Ann to Mr. Bradley Gordon Whitford, son of Mr. and Mrs. Walter Wityshin of Winnipeg. The Marriage will take place May 16th at 2 p.m. in St. Andrew's River Heights United Church.

◆
Dr. and Mrs. T. William Shaw, Russell, Man., announce the engagement of Elinor May to Dr. Thomas Alexander Lebbetter, son of Dr. and Mrs. T. A. Lebbetter. The wedding is to be May 24th, in St. Joseph's Church, Russell, Man.

◆
The engagement is announced of Mildred G. Barron, daughter of Mrs. Barron of Barwick, Ont. to Arthur Wm. Stewart Hay, elder son of Mrs. Hay, Winnipeg, and the late Dr. A. W. S. Hay. The wedding is to be May 18th, at First Baptist Church, Barwick, Ont. Miss Barron is a graduate of Grace Hospital School of Nursing.

◆
Welcome to our babies:

Dr. and Mrs. N. M. Kester welcome Neil McDonald, at Wawanessa, Man., April 20th, 1958. Neil is baby brother to Norma, Jimmy, Joyce and Susan. Thank you for your note, Mrs. Kester.

◆
Dr. and Mrs. Richard Okumura, McCreary, Man., announce the birth of Cheryl Tami, April 10, 1958.

◆
Dr. and Mrs. Gordon Ritchie proudly announce a son, Cameron Ward, April 4, 1958.

◆
Dr. and Mrs. Kenneth Meskur welcome Michael David, April 8, 1958.

◆
Dr. and Mrs. William F. Campbell, also a son, John William, on April 18th.

◆
Dr. and Mrs. Alvin Cera are happy to announce the birth of Kelli Brenda, sister for Arne. Brenda arrived March 31, 1958.

◆
Saturday, April 12, Oxford United Church was the scene of the marriage of Elsie Elizabeth, daughter of Dr. and Mrs. Chih-Huan Ling, to Dr. John C. Wong.

Planned Anorexia...

TO ASSURE WEIGHT LOSS

Willadrine

METHAMPHETAMINE with SECOBARBITAL

Each tablet contains:

Methamphetamine Hydrochloride U.S.P.	
(Desoxyephedrine Hydrochloride)	5 mg.
Secobarbital Sodium	16 mg.

Indications: In obesity as an appetite depressant, mild depressive and anxiety states, narcolepsy, postencephalitic Parkinson's.

The combination of Methamphetamine with the rapid and short acting Secobarbital results in an elevation or amelioration of mood. In addition, the barbiturate prevents any nervousness produced by Methamphetamine. This combination is very effective in controlling the appetite. Since the only cure for obesity is a reduction in the caloric intake, the administration of Methamphetamine appears to be the logical treatment of obesity.

Dosage: One-half to one tablet daily. This may be increased to one-half to one tablet two or three times daily if desirable. In obesity Willadrine should be administered 30 to 50 minutes before mealtime. The last dose should be given at least four to six hours before bedtime to avoid interference with sleep.

Available in bottles of 100 and 500

CHARLES R. WILL & COMPANY LIMITED • LONDON, CANADA

Professional Representative: Mr. A. C. Payne, 49 Harmon Ave., St. James, Man.

Manitoba Medical Association

Canadian Medical Association, Manitoba Division

Executive Offices: 601 Medical Arts Building, Winnipeg 1, Man.

Executive 1957 - 1958

C. B. Schoemperlen, President
Edward Johnson, First Vice-President
F. G. Allison, Second Vice-President
H. E. Bowles, Honorary Secretary
L. R. Rabson, Honorary Treasurer
M. T. Macfarland, Executive Director

Members Elected at Large

K. I. Johnson, Pine Falls	G. F. Hamilton, Winnipeg
F. H. Smith, Winnipeg	J. C. Menzies, Morden
H. C. Stevenson, Minnedosa	A. R. Tanner, Winnipeg

Representatives of District Societies

Winnipeg Medical Society: J. L. Downey,
Winnipeg
Northwestern District: W. K. Hames, Hamiota
Central District: T. W. D. Miller, Oakville
Northern District: M. Potoski, Dauphin
North of 53 District: H. L. McNicol, Flin Flon
Brandon and District: R. F. M. Myers
Southern District: D. G. Irving, Crystal City

Representatives

College of Physicians and Surgeons:
B. Dyma, Winnipeg; C. B. Stewart, Winnipeg
Faculty of Medicine, University of Manitoba:
H. Medovy
Health Officers Section, Manitoba Public Health
Association: William Watt
Representative to C.M.A. Executive:
R. W. Richardson
Committee on Economics:
K. R. Trueman, Chairman

Manitoba Medical Review

Editorial and Business Offices: 601 Medical Arts Building, Winnipeg 1, Man.

Editor

S. Vaisrub, M.D.

Editorial Committee

General Practice

Athol Gordon, M.D.

History of Medicine

J. D. Adamson, M.D.

Publicity

L. A. Sigurdson, M.D.

Medical Faculty

L. G. Bell, M.D.
C. C. Ferguson, M.D.

Medicine

R. E. Beamish, B.A., M.D.
J. M. Kilgour, B.Sc., M.D.
A. G. Rogers, M.D.
J. H. Martin, M.D.

Clinical Pathology

P. T. Green, B.A., M.D.

Obstetrics and Gynecology

A. W. Andison, B.A., M.D.

Pædiatrics

H. Medovy, M.D.

Pathology

D. W. Penner, B.A., M.D.

Social

K. Borthwick-Leslie, M.D.

Surgery

R. L. Cooke, M.D.
M. J. Lehmann, M.D.

Anæsthesia

M. Minuck, M.D.

Ophthalmology

H. N. Reed, M.D.

Liaison

R. H. McFarlane, M.D.

Editorial or other opinion expressed in this Review is not necessarily sanctioned by the Manitoba Medical Association.

Contributors

Articles are accepted on condition that they are contributed solely to this Journal.

Manuscripts

Must be typewritten, double spaced, and the original copy.

References

In the case of a journal arrange as follows: Author (Smith, A. B.), title, journal, volume, page, year. In the case of a book: F. M. R. Walshe, Diseases of the Nervous System, E. & S. Livingstone Ltd., Edinburgh, p. 55, 1947.

Illustrations

A limited number will be accepted. Photographs should be clear and unmounted. Legends to be typed separately.

Reprints

May be ordered upon forms sent with galley proofs. A quotation on the cost will be forwarded to the author for confirmation before work begins.

The contents of the Review are protected under the Copyright Act of 1921 and are not to be reproduced in whole or in part without written permission.

Annual Subscription \$5.00

The Manitoba Medical Review is published the first of each month, in 10 Yearly Issues — Jan., Feb., Mar., April, May, June-July, Aug.-Sept., Oct., Nov., Dec.

Advertising Rates

Information on advertising rates and mechanical requirements will be supplied on request.

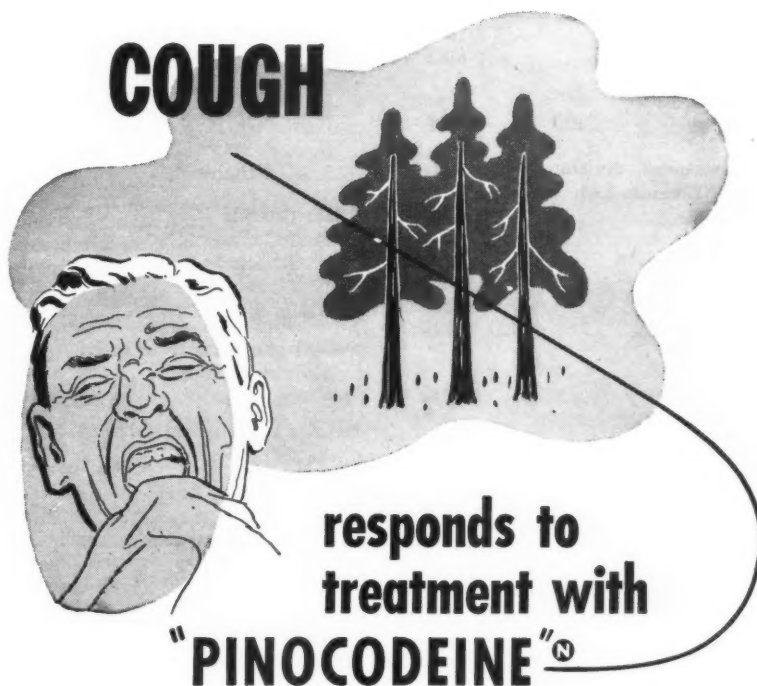
Nadalgine

NADEAU

RHEUMATIC AND

NEURALGIC PAINS

The advertisement features a central illustration of a ballerina in a white tutu, performing a dance move with one arm raised. The background consists of vertical, wavy lines. The brand name 'Nadalgine' is written in a large, elegant script at the top. Below it, the name 'NADEAU' is enclosed in an oval. At the bottom, two black rectangular banners contain the text 'RHEUMATIC AND' and 'NEURALGIC PAINS' in white capital letters.



Each fluid ounce contains:

<i>Pinus strobus</i>	32 gr. (2.1 G.)
<i>Prunus virginiana</i>	32 gr. (2.1 G.)
<i>Sanguinaria canadensis</i>	4 gr. (0.25 G.)
<i>Populus balsamifera</i>	2 gr. (0.12 G.)
<i>Chloroformum</i>	1 min. (0.6 cc.)
<i>Codeinae phosphas</i>	1 gr. (65 mg.)

N Oral narcotic prescription permitted.

DOSAGE: One or two drams every 4 hours.

Packaged in 16 fluid ounce bottles.



Charles E. Frosst & Co.
MONTREAL CANADA

Detailmen's Directory

Representing Review Advertisers in this issue, whose names are not listed under a business address.

Abbott Laboratories

G. J. Bowen	4-4559
R. G. (Bud) Harman	LE 3-7509
Alan (Al) M. Grant	CE 3-1802
Bruce Hunter	42-5263

Allen and Hanburys Co. Ltd.

H. W. (Bert) Heaslip	6-4596
----------------------------	--------

Arlington-Funk Laboratories, division

U.S. Vitamin Corp. of Canada, Ltd.

Ed Lessor	40-6349
-----------------	---------

Ayerst, McKenna and Harrison

W. R. Card	40-7115
C. G. Savage	SU 3-4558
Jack Ostrow	ED 4-3240

Bencard, C.L.

W. J. Tarbet	40-4438
--------------------	---------

Borden Company Ltd.

Ken Hodges	JU 9-6361
------------------	-----------

British Drug Houses

Gerald Reider	SP 5-2061
W. S. Langdon	43-1325
H. Harvey	6-5341

Calmic Limited

Ken Harrison	VE 2-4120
--------------------	-----------

Ciba Company Ltd.

Edward Stephany	SP 2-9323
Leslie D. MacLean	CE 3-3240

Connaught Laboratories

Brathwaites Ltd.	WH 2-2635
-----------------------	-----------

Frosst, Chas. E.

W. M. Loughheed	40-3963
W. J. McGurran	CH 7-8231
E. R. Mitchell	40-6164
R. P. Roberts	CE 3-5900

Horner, Frank W. Limited

Jos. Lavitt	JU 9-1691
Earl Ayre	CE 3-4086
Frank Lowe	VE 2-5821

Lederle Laboratories

J. G. Jonasson	SP 5-4862
W. C. Hall	
J. E. Smith	CH 7-4727

Nadeau Laboratory Ltd.

Andrew Desender	CH 7-4909
-----------------------	-----------

Ortho Pharmaceutical Corp.

Don MacDonald	43-4549
---------------------	---------

Parke, Davis & Co.

L. W. Curry	40-1138
B. S. Fleury	40-4441
R. J. Robinson (Brandon)	92-288
J. A. Winram	40-5372

Pfizer Canada

E. E. Conway	6-8002
W. R. Mitchell	SP 2-0676
W. G. Johnston	6-1391
Blake Johns	SP 5-1404

Robins (Canada) Ltd., A. H.

Harold Tetlock	LE 3-8386
Fred Gallinger	ED 41-3627

Sandoz Pharmaceuticals Ltd.

H. D. Robins	SP 4-0727
--------------------	-----------

Schering Corp. Ltd.

Halsey Park	40-4346
John D. Nicholson	LE 3-4447

Searle & Co., G. D.

Harry Chambers	LE 3-6558
----------------------	-----------

Squibb & Son, E. R.

J. H. Don MacArthur	40-4741
A. B. Shaen	42-9859
M. G. Waddell	4-1552

Warner-Chilcott Labs.

A. L. (Andy) Argue	6-1619
John E. Lee	43-2062

Will, Chas. R.

A. C. Payne	VE 2-2055
-------------------	-----------

Winthrop Laboratories

R. M. Kelly	Res. 40-6459
A. E. Pauwels	CE 3-2024

Wyeth & Bro., John

A. W. Cumming	40-5694
Stuart Holmes	JU 9-4273

Doctor Required

Doctor wanted: as administrator of 18 bed, well equipped hospital in South Eastern Manitoba and for community practice. Assured salary. New residence, within easy distance of Winnipeg by all weather road. Apply: Ross Mitchell, M.D., 523 Medical Arts Building, Winnipeg 1, Manitoba.

Medical Men

Ideal traffic corner location in the heart of Norwood and St. Boniface. (New air-conditioned building). Complete facilities for five Medical men and Laboratory Technician. Will offer the right group a very attractive proposition. Apply: McCullough Drug Co., 123 Marion St., Cor. Tache, Norwood, Man.

Department of Health and Public Welfare
Comparisons Communicable Diseases — Manitoba (Whites and Indians)

DISEASES	1958		1957		Total	
	Feb. 23 to Mar. 22, '58	Jan. 26 to Feb. 22, '58	Feb. 24 to Mar. 23, '57	Jan. 27 to Feb. 23, '57	Jan. 1 to Mar. 22, '58	Jan. 1 to Mar. 23, '57
Anterior Poliomyelitis						2
Chickenpox	87	88	123	132	220	344
Diphtheria		1	9	3	2	17
Diarrhoea and Enteritis, under 1 year	22	25	17	19	59	36
Diphtheria Carriers			4	2		9
Dysentery—Amoebic						
Dysentery—Bacillary	2	2			4	
Erysipelas	2		3	1	3	4
Encephalitis	1				1	
Influenza	42	50	31	3	97	34
Infectious Hepatitis	47	33	117	46	96	181
Measles	191	253	519	555	543	1310
Measles—German	6	7	22	23	16	54
Meningococcal Meningitis	2			1	6	1
Mumps	57	45	113	91	136	241
Puerperal Fever						
Scarlet Fever	22	9	12	33	38	49
Septic Sore Throat				1		1
Smallpox						
Tetanus	1			1	1	1
Trachoma						
Tuberculosis	35	29	40	29	71	87
Typhoid Fever	1			1	1	1
Typhoid Paratyphoid						
Typhoid Carriers			1			1
Undulant Fever						
Whooping Cough	3	20	20	35	24	87
Gonorrhoea	74	113	77	61	258	202
Syphilis	5	9	7	10	16	22
Psittacosis						

FOUR-WEEK PERIOD, FEBRUARY 23 TO MARCH 22, 1958

DISEASES	*850,000 Manitoba	*880,865 Saskatchewan	*5,404,933 Ontario	*2,932,006 Minnesota
(White Cases Only)				
*Approximate population				
Anterior Poliomyelitis			1	
Chickenpox	87	4	1486	
Diarrhoea & Enteritis, under 1 yr.	22	1		
Diphtheria Carriers				
Diphtheria				
Dysentery—Amoebic				1
Dysentery—Bacillary	2	1	1	27
Encephalitis Epidemic	1	1		
Erysipelas	2		3	
Influenza	42		109	99
Jaundice, Infectious	47	84	66	21
Measles	191	38	581	173
German Measles	6		220	
Meningitis Meningococcal	2	1	3	7
Mumps	57	6	416	
Psittacosis				
Puerperal Fever				
Scarlet Fever	22	10	238	133
Septic Sore Throat		3	3	88
Smallpox				
Tetanus	1			
Trachoma				
Tuberculosis	35	40	82	92
Typhoid Fever	1			
Typhoid Para-Typhoid			1	
Typhoid Carrier				
Undulant Fever				4
Whooping Cough	3		105	6
Gonorrhoea	74	†	133	†
Syphilis	5	†	32	†

†These figures were not given on their reports.

DEATHS FROM REPORTABLE DISEASES

March, 1958

Urban—Cancer, 84; Diarrhoea and Enteritis, 2; Influenza, 3; Meningitis (meningococcal), 1; Pneumonia, Lobar, 5; Pneumonias (other forms), 23; Tuberculosis, 1. Other deaths under 1 year, 22. Other deaths over 1 year, 276. Stillbirths, 19. Total, 436.

Rural—Cancer, 32; Diarrhoea and Enteritis, 4; Influenza, 3; Pneumonia, Lobar (490), 3; Pneumonias (other forms), 8; Septicaemia and Pyaemia, 1; Tuberculosis, 3; Whooping Cough, 1; Bacillary Dysentery, 1; Herpes Zoster, 1. Other deaths under 1 year, 22. Other deaths over 1 year, 164. Stillbirths, 20. Total, 263.

Indians—Influenza, 1; Measles, 1; Pneumonia, Lobar (490), 1; Pneumonia (other forms), 2. Other deaths under 1 year, 1. Other deaths over 1 year, 2. Stillbirths, 1. Total, 9.

Anterior Poliomyelitis—The year's first case reported at time of writing (April 1). A two-year-old boy with paralysis in right arm, who has had two doses of vaccine.

Diarrhoea and Enteritis under 1 year—More than one-third increase in cases reported this year throughout the province over last year.

Typhoid Fever—Still with us. This is a greater Winnipeg case, in an 82-year-old female who died 24 hours after hospital admission. Laboratory findings showed Type Et.

SPECIALIZING in pregnancy tests

Selected Albino rats used for Accuracy

Laboratory hours 8 a.m. to 5 p.m.
Sundays and holidays by appointment

Containers sent on request

Phone WH 2-6935 day or night

WESTERN BIOLOGICAL LABORATORY
207 Boyd Bldg., 388 Portage Ave.
Winnipeg 1, Man.

Doctors' and Nurses' Directory

247 Balmoral Street, Winnipeg 1, Man.

24-Hour Service

Phones:	Victorian Order of
Doctors' — SU 3-7123	Nurses — Night calls,
Nurses' — SP 2-2151	Sundays and
Registered Nurses	Holidays
Practical Nurses	Phone SP 2-2008
Dental Emergency Service	
P. BROWNELL, Reg. N., Director	

General Practitioner Wanted

To associate himself with me in municipal practice. Salary \$7,000.00 per year. Full vacation privileges. For further particulars, write or contact: Dr. W. F. Evelyn, Rockwood-Stonewall Health Area, Stonewall, Manitoba.

Practice for Sale

Large general practice in Southern Manitoba. Unopposed. Open hospital six miles on paved all-weather highway. Selling price is approximately one year's net income and includes large, comfortable, modernized home, separate office building, full equipment including x-ray, and small dispensary. Owner specializing in summer. Will introduce. Apply: Dr. P. Boreskie, Gretna, Man.

EATON'S



Doctor's Direct
Line — Sunset 3-1423

**Drug needs for personal or family
requirements . . . your best choice at EATON'S**

PRESCRIPTIONS

Over 15 qualified pharmacists . . . over one million prescriptions on file. A very complete stock of ethical products for prescriptions . . . pick up and delivery service.

COMPLETE LINE OF SUNDRY ITEMS

Baby supplies . . . toiletries
and women's hygienic supplies.

SURGICAL SUPPLIES

Elastic hose, trusses and surgical belts . . .
fitted by fully trained personnel.

Drugs, Main Floor Dial Sunset 3-2115

THE T. EATON CO. LIMITED

Published by the Manitoba Medical Association, 601 Medical Arts Building, Winnipeg, Canada

Contents are protected under the Copyright Act of 1921

Printed by The Roscoe Company, 352 Cumberland Ave., Winnipeg, Canada



